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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

MARCH, 1955

Modern furniture store gives San Diego worst fire in 18 years. (Story on page 232)

A CASE - SHEPPERD - MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to science ?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

ACCEPTED by the American Medical Association for use by laymen (A.M.A. Journal, May 30, 1942). Relied on from coast to coast by thousands of leading hospitals and fire departments.

Write for our free

Medical Reference on Resuscitation

Information and Demonstration

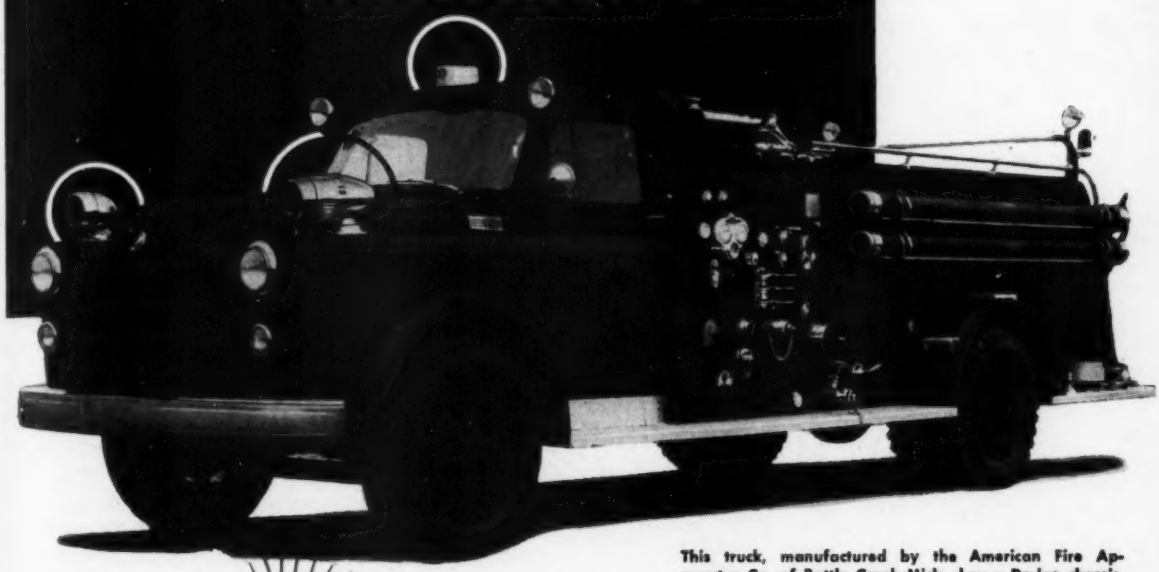
Bulletin on a New Manual Method of Artificial Respiration

"Simplest and Safest"

J. H. EMERSON COMPANY

58 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

"4-11" Christmas Tree



This truck, manufactured by the American Fire Apparatus Co. of Battle Creek Mich., has a Dodge chassis, a Barton-American 750 g.p.m. heavy duty pump, 500 gal. booster tank, two hose reels with Barton super-fog guns, electric reel rewinds and capacity for 1000 ft. of hose. Warning signals by FEDERAL!

The alert fire department is constantly aware of the value of top quality fire fighting equipment.

To some, the fire truck shown may appear to be lit up like a Christmas tree; but it will never be mistaken or overlooked for the valuable tool it is, because it is protected, visibly and audibly by the finest warning signals—by FEDERAL.

The big C6 siren roars for the right of way through today's high-density traffic, identified and pinpointed by the famous FEDERAL Beacon Ray light on the cab roof, the FEDERAL Propello-Ray light in the siren itself and its twin #19 Propello-Ray light on the right fender. This super galaxy of moving, flashing red beams, punctuated by the powerful FEDERAL siren spells "speed with safety" through traffic.

Specify **FEDERAL Beacon Ray and FEDERAL Propello Ray lights and FEDERAL coaster sirens for your apparatus.**

FEDERAL SIGN and SIGNAL Corporation

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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Teamwork

WHAT makes the successful book, or play, or job of fire suppression, if you please?

- There is no single recipe; the success, whatever its nature, is usually the sum total of a lot of individual contributions.
- Trying to put your finger on a single reason for the success of an engineering journal is like trying to pick out one single operation that licked a conflagration.
- Whatever success FIRE ENGINEERING has enjoyed in its busy life of three-quarters of a century-plus is due to a number of factors, among other things what the editors and advertisers have put into it in the way of ideas, inspiration, encouragement, and above all, of factual information.
- After all is said and done—readers can only get *out* of a publication what those who create it put *into* it.
- A lot of people have a lot to do with Fire Engineering. That is why so many men interested in fire protection and prevention get so much out of it. That is why so many leaders in firemanship take it year after year, refer to it time after time, in the course of their important business.

The Publishers

FIRE ENGINEERING

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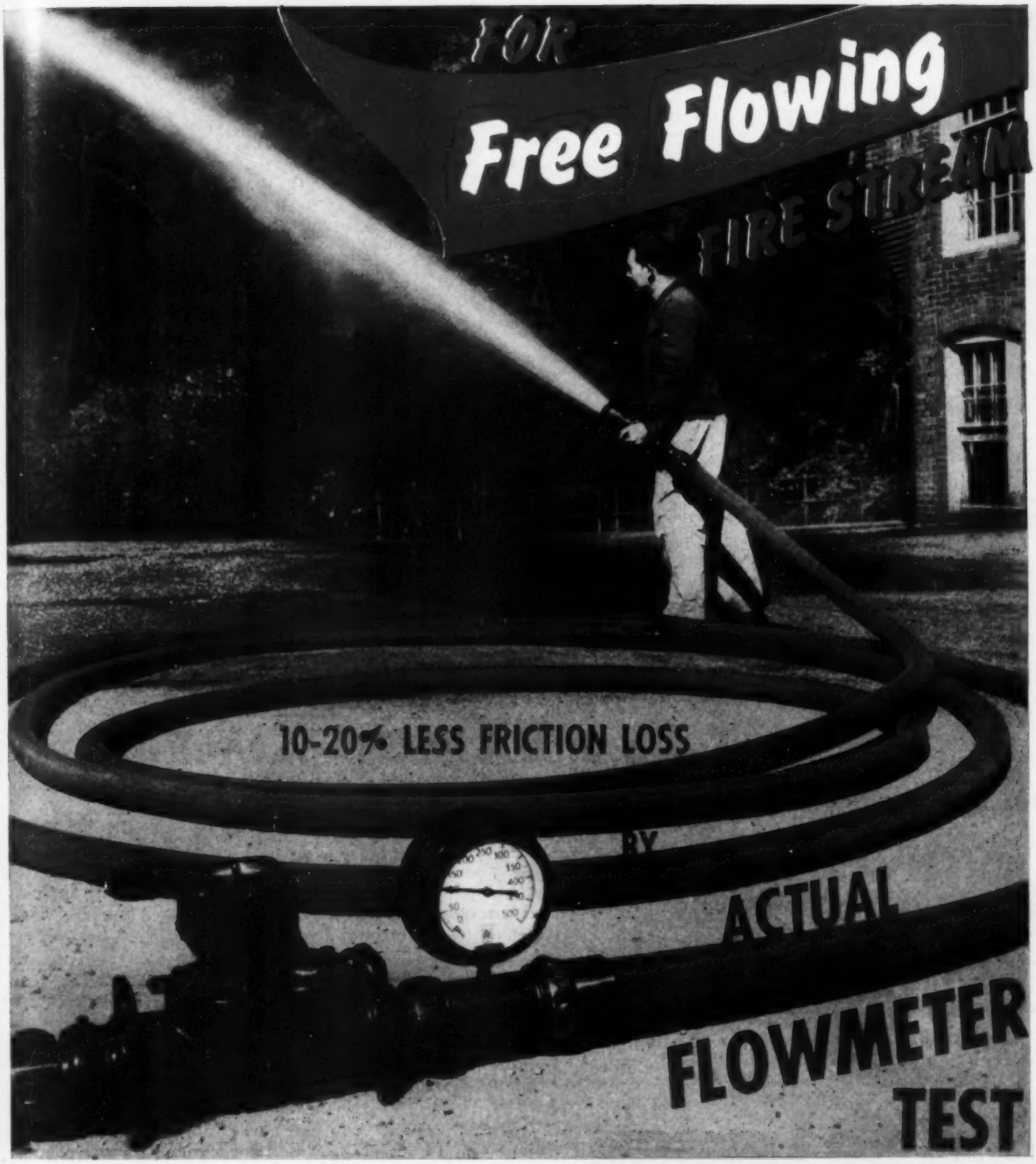

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real fire-fighting power

-plus PRACTICAL ECONOMY

GET YOUR COPY NOW

You get both with the BARTON-AMERICAN FRONT-MOUNTED PUMP

LOOKING FOR THE MOST fire-protection for the money —*without* sacrifice of top-quality in materials and workmanship? Then you'll want to investigate the unique advantages you can get with a Barton-American UA Type Front-mounted Pump!

THIS NEW BULLETIN— shows *point-by-point* the reasons why a powerful, precision-built, gear-driven UA Pump costs less to build and install on any chassis you select. It shows how you can fight fires while the truck is moving — with high-pressure straight streams or famous Barton Super-Fog Guns.

IT SHOWS HOW you can carry more water or equipment—on a chassis that's better balanced for the road—than with other pumps. And it gives details on our exclusive Service-Pump Plan—an extra assurance that your community will *always* have continuous fire protection! There are many other points to consider, so—

WRITE TODAY FOR YOUR COPY OF UA PUMP BULLETIN 8330-B

AMERICAN-MARSH PUMPS

BATTLE CREEK, MICHIGAN

CANADIAN PLANT:
American-Marsh Pumps (Canada) Ltd., Stratford, Ontario, Canada

B. F. Goodrich announces

New treatment makes fire hose 10 times more resistant to mildew and rotting

MILDEW is a hose killer. It thrives on water soaked fire hose jackets, causes weak spots that burst under pressure.

Now B. F. Goodrich engineers, who were first to make fire hose light and flexible, have come up with a new chemical treatment—called Superseal—that gives maximum protection against mildew, rotting, moisture absorption and freezing.

The new treatment is not just a surface application. The chemical solution penetrates and protects every cord in both the inner and outer jackets, prepares the hose for all sorts of weather. And, unlike ordinary treatments, the B. F. Goodrich process actually *increases* the adhesion between jacket and tube. What's more, you get added safety because the chemical makes B. F. Goodrich hose more flame-resistant.

Tests show that hose treated by this new B. F. Goodrich method has 10 times better mildew resistance than other treated hose. To prove this, three lengths of hose were buried in a plot of ground that had been infested with mildew spores, maggots and microbes. After 8 weeks, the untreated hose was reduced to powder. The hose treated the old way wasn't much better. But the B. F. Goodrich treated hose looked good as new, still had 96% of its original strength.

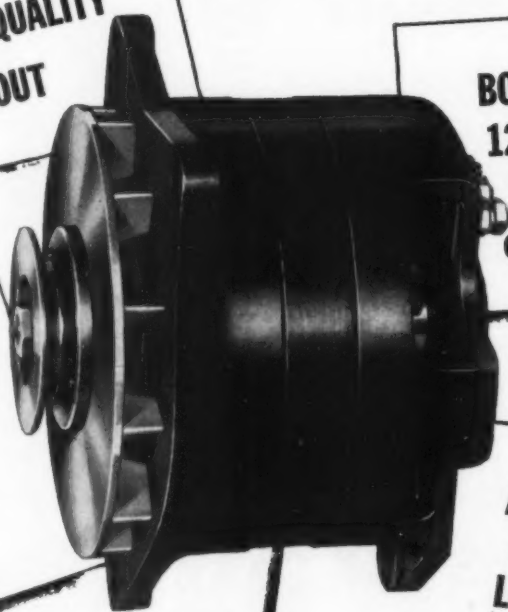
There's a B. F. Goodrich fire hose distributor near you, ready to bring this and other B. F. Goodrich hose improvements to your department. Give him a call or write *The B. F. Goodrich Company, Dept. M-33, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

A NEW LEECE-NEVILLE ALTERNATOR SYSTEM THAT ACTUALLY COSTS LESS THAN "EXTRA" OUTPUT D. C. GENERATORS!

TYPICAL LEECE-NEVILLE QUALITY THROUGHOUT

BOTH 6-VOLT and 12-VOLT MODELS for passenger cars and trucks



NEW SIMPLIFIED BRACKETING MAKES INSTALLATION EASY

ALL the famous advantages of L-N Alternators, including...

- AMPLE OUTPUT FOR ACCESSORIES
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Write, wire or phone today for full details and the amazing low price. The Leece-Neville Company, Cleveland 14, Ohio. *Distributors in principal cities . . . service stations everywhere*

YOU CAN RELY ON... **Leece-Neville ALTERNATORS**

Proved by performance for over 9 years

Meets the 4 most important Fire-Fighting Hat requirements

...THE M·S·A STREAMLINED FIREMAN'S HELMET

Protection from falling or flying objects, resistance to electric shock, comfort on the job, and durability in service add up to the four-point standard for modern fire-fighting helmets. On each count, the M.S.A. Fireman's helmet has proved its superiority because of these design and material-selection features:

1. IMPACT PROTECTION—The one-piece, laminated construction of the plastic, which is molded under high pressure, takes bumps and blows without passing them on. Reinforced ridge at top aids deflection; sturdy crown hammock cushions blows.

2. DIELECTRIC STRENGTH—A special plastic, selected for its natural resistance to electric shock, is used for the shell construction. Nonabsorbent, this material gives protection that isn't affected by moisture conditions.

3. COMFORT—Very light weight and perfect balance eliminate job fatigue. Soft leather sweatband with sized or adjustable lining permits perfect fit without pressure points. Space between band and hat provide ventilation.

4. DURABILITY—Helmet will not soften or deteriorate when exposed to water or common chemicals. Material and design prevents twisting or warping when exposed to heat.

Streamlined design has plenty of eye appeal. Shields are made of full-grained leather in black, white or red. Color combinations available. Easily zipped-in winter linings assure all-weather comfort. Write for details.

MSA
SAFETY EQUIPMENT HEADQUARTERS.

Call the M.S.A. man on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
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Only the JOHN BEAN HPV* FIRE-FIGHTER has all these features

*HPV — the two-fisted fire-fighter with both High Pressure Fog and Volume pumps (plus John Bean High-Pressure Sno-Foam at low extra cost).

TRUE HIGH-PRESSURE AND MULTI-STAGE PUMPS OPERATE SIMULTANEOUSLY

Operate them together or singly — the John Bean High-Pressure Fog piston pump, delivering 60 GPM at 850 PSI pump pressure — and the John Bean centrifugal volume pump, providing a smooth flow at 500, 600 or 750 GPM.

DUAL BATTERY SYSTEM
Auxilliary battery insures against starting failures.

VACUUM-OPERATED PUMP SHIFT
Quick, positive, trouble-free shifting of volume pump.

THE PATENTED JOHN BEAN FIRE-FIGHTER GUN

The fireman has perfect control of stream patterns with this famous gun. Instant on-and-off control of discharge with one hand—other hand rotates barrel for complete control from driving stream to close-up fog patterns. Face-protector spray allows fast, close approach to hot fires. Hose extending from back of gun provides straight-flow waterway for best performance and easiest handling.

STANDARD TRUCK CHASS

Contact your John Bean Representative

(for others not listed write the factory)

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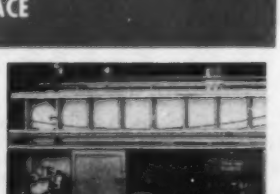
OVER 45 CUBIC FEET OF WEATHERPROOF STORAGE SPACE

Five, large capacity, lighted compartments are built in—one tailored for slide-mounted generating equipment; another for portable water pump. Compartments are fitted with easy opening, flush-type door latches.



INTERIZED EEL COMPARTMENTS

movable enclosures win-rize the two reel compart-ents. These, as well as ump, valves, gauges and ntrols, are warmed by en-ne heat.

POWER REWIND HOSE REELS

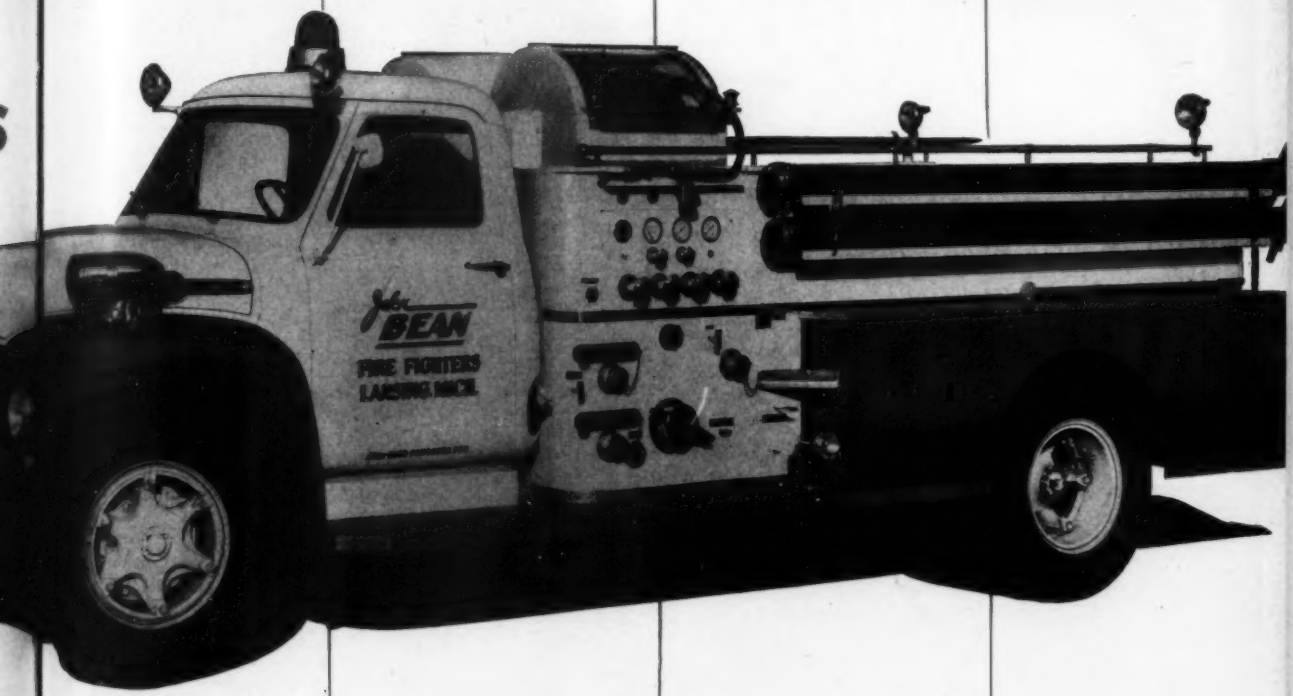
Faster, easier hose pick-up with power operated reels. Hose lays out smoothly and easily over roller guides.

400 FEET OF HIGH-PRESSURE HOSE

The 200 feet of special, 3500 pounds burst test hose on each reel can be easily handled by one man.

SPACIOUS HOSE BED

Smooth, level hose bed i properly ventilated, carrie 1200 feet of 2½-inch and 40 feet of 1½-inch volume hose



LLUMINATED CONTROL PANEL

ll gauges, valves and con-rols are centralized for in-tant operation — illumin-ted for safety and easy eading at night.

BONDERIZED FINISH

For longer life and better paint finish, patented bonderizing process is used on all metal surfaces.

40 FEET OF SUCTION HOSE

Standard equipment includes two 10-foot lengths each of 2½-inch and 4½-inch hard suction hose, complete with hydrant adapters and suction screens.

500-GALLON, 10-GAUGE STEEL TANK

Smooth cornering, starts an stops assured by six-cor partment tank with low ce ter of gravity. Prevents u desirable water surge.

John Bean Fire-Fighters can be mounted on most standard truck chassis

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The proof is in the doing.

See for yourself what a John Bean HPV Fir Fighter will do for your community's fire safet In Lansing, Michigan, you'll get expert instru tion and actual practice in volume and hig pressure fog methods at John Bean's Fire-Figh ing School. In the meantime, why not conta your local John Bean representative, or wri factory direct. In many localities, a demonstr tion can be arranged for you.

JOHN fmc® BEAN

Dept. 126, Lansing 4, Michigan — P.O. Box 145, San Jose 3, California

A Division of Food Machinery and Chemical Corporat

Photo Courtesy of Seco Safety Products Co.

Flat-Folding, Rubber-Lined Hose For Quick, Sure Action Protection

Qua-Flex fire hose is specially constructed to fold flat. This makes it highly adaptable for storage on racks, even those designed for unlined linen hose. When hose is pulled from rack, pins drop easily and hose does not kink. It takes up less space than most other types of fire hose. That's why it's so popular for fire protection service in office buildings, institutions, industrial plants, ships, or wherever space is limited. It is quickly and easily dried after use; hence frequent testing doesn't damage it.

This hose is ideal for use with a fog nozzle—an advantage over linen hose, and one that is usually found only in larger, heavier hose.

The tube is made of a slow-aging, non-acid-forming, synthetic rubber compound that always remains resilient, resists cracking and stays leak-proof. The jacket is evenly woven of long staple cotton yarn. Tube and jacket are tightly bonded together for strength and long life.

Qua-Flex is available in I.D. sizes 1½", 2" and 2½", all guaranteed to withstand a test pressure of 300 p.s.i., in 25, 50, 75 and 100 foot lengths. Popular 1½" size has Factory Mutual Approval.

We also manufacture a complete line of industrial and municipal fire hose, as well as a complete line of industrial rubber products: belting, hose, packing and moulded rubber of every construction for every need. *Through your Quaker and Quaker Pioneer distributor* our research and engineering services are always available to help you solve any fire protection or industrial rubber problem. *Write for free folder and name of nearest distributor.*

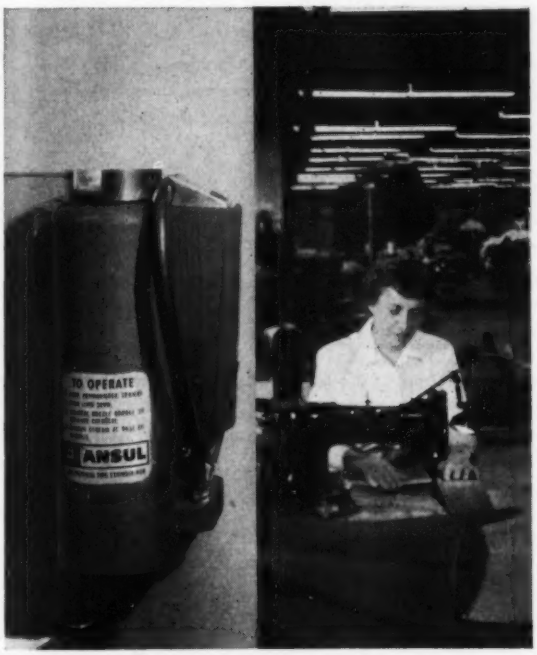
QUAKER RUBBER CORPORATION
Philadelphia 24, Pennsylvania

HKP

QUAKER PIONEER RUBBER MILLS
San Francisco 7, California

New multi-purpose 10 lb. Ansul Extinguisher

can simplify your fire protection problem



Easy-to-operate Ansul 10-pounder gives fast, effective results. Light weight makes it easy for women to use.

The 10-pounder stands up under rugged road use. Built to give dependable service after extreme exposure. Listed by Underwriters' Laboratories.

New rugged unit gives you high fire killing rating, light weight, modern design

The new Ansul 10-pounder is *designed* and *constructed* for all-around plant use—wherever dry chemical protection of this capacity is called for. It is ideally suited for truck protection, other outdoor hazards and indoor use. This multi-purpose advantage means that you have fewer models of extinguishers to service and a less complicated training program to maintain.

The high fire killing rating (B1, C1) of this unit gives you *effective* protection the *instant* it's needed. Another advantage of the Ansul 10-pounder is its light weight. This feature is important where women are called upon to lift and operate the unit. This extinguisher is also modern in appearance. It was styled by Raymond Loewy to be *seen* in any location—in the office, laboratory, plant, or on a truck.

Have the Ansul Man review your class B and C hazards, those involving flammable liquids, gases, and electricity. He will show you how the Ansul 10-pounder can make your fire protection program easier to administer, more economical to maintain.

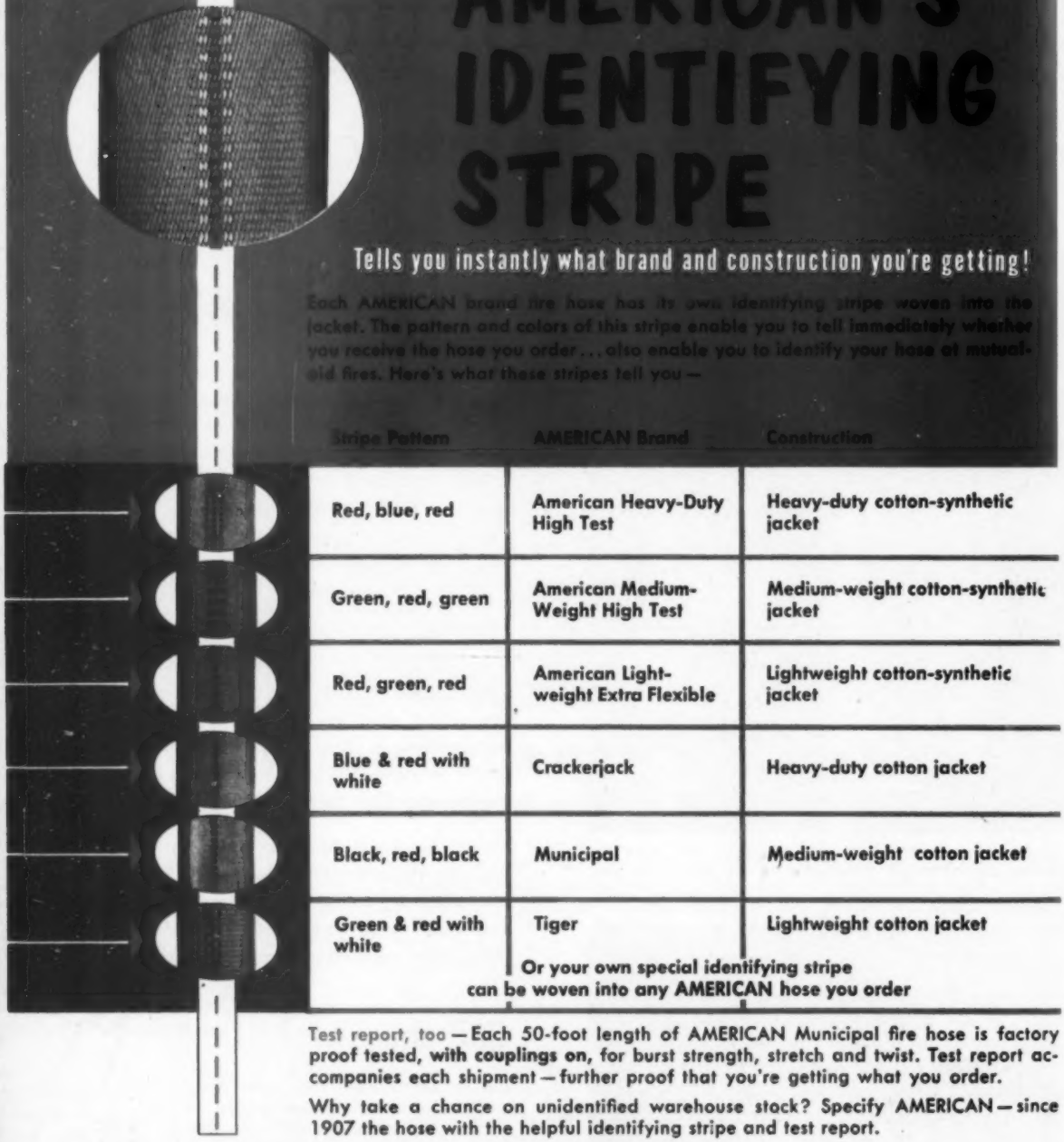
Call the Ansul Man!

Get in touch with your local Ansul man through the "yellow pages" or write ANSUL CHEMICAL COMPANY, Fire Equipment Division, Dept. F-15, Marinette, Wisconsin. *Write Ansul for your copy of new Fire Equipment Catalog.*

ANSUL

HERE'S PURCHASING PROTECTION FOR YOU...

AMERICAN'S IDENTIFYING STRIPE



Tells you instantly what brand and construction you're getting!

Each AMERICAN brand fire hose has its own identifying stripe woven into the jacket. The pattern and colors of this stripe enable you to tell immediately whether you receive the hose you order... also enable you to identify your hose at mutual-aid fires. Here's what these stripes tell you—

Stripe Pattern	AMERICAN Brand	Construction
Red, blue, red	American Heavy-Duty High Test	Heavy-duty cotton-synthetic jacket
Green, red, green	American Medium-Weight High Test	Medium-weight cotton-synthetic jacket
Red, green, red	American Light-weight Extra Flexible	Lightweight cotton-synthetic jacket
Blue & red with white	Crackerjack	Heavy-duty cotton jacket
Black, red, black	Municipal	Medium-weight cotton jacket
Green & red with white	Tiger	Lightweight cotton jacket

Or your own special identifying stripe can be woven into any AMERICAN hose you order

Test report, too—Each 50-foot length of AMERICAN Municipal fire hose is factory proof tested, with couplings on, for burst strength, stretch and twist. Test report accompanies each shipment—further proof that you're getting what you order.

Why take a chance on unidentified warehouse stock? Specify AMERICAN—since 1907 the hose with the helpful identifying stripe and test report.

AR-29

THE American RUBBER MANUFACTURING CO.

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Here's your "Task Force" for any type of fire

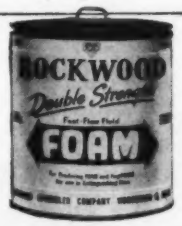
Complete team of Rockwood portable products combines speed, versatility and economy

Separately, each of these Rockwood products has its own particular advantages for fighting various types of fires. Together, they make a mobile, multi-purpose task force that delivers a whale of a lot of protection against *any* type of fire, whether it's Class A (wood, paper, rags, etc.), or Class B (flammable liquids). That includes personnel protection, too, because safety for the men who use them is an essential factor in all Rockwood fire fighting products.

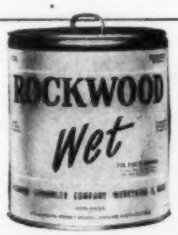
With this versatile team guarding your property you get over-all security that's priceless. Yet this security is yours at very low cost — for Rockwood's long, practical experience and constant research bring you not only new *efficiency* but new *economy* in fire-fighting methods and equipment. It will pay you to learn more about these and many other Rockwood products. Mail the coupon today.

***Type SG-60 Nozzle.** A true all-purpose nozzle that fights fire 5 ways. It discharges high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or solid stream of FOAM.

FOAM and "Wet" Eductor with the new FW Metering-Check Valve. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.

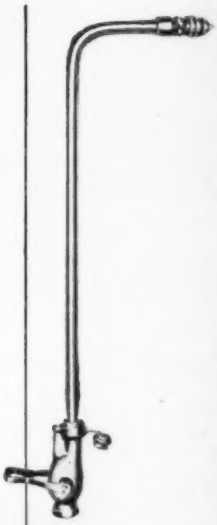


***Rockwood Double Strength FOAM.** Puts out fires in flammable liquids, and in ordinary combustibles, quicker, at lower cost. Three parts FOAM and 97 parts water create a tremendous heat-resistant blanket. Flows freely at —15°F.

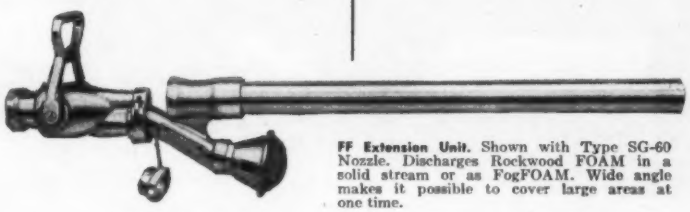


***Rockwood WET.** One part WET mixed with 99 parts water increases water's penetration and extinguishing action. Gives quickest results against deep seated fires. Saves time, water, manpower.

Bayonet Piercing Applicator. Has a hardened steel cutting tool attached to tip, enabling operator to pierce through partitions, into interiors, etc. Discharges low velocity WaterFOG or FogFOAM.



***Long Extension Applicator.** Discharges low velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammables. Excellent personnel protection is another advantage.



FF Extension Unit. Shown with Type SG-60 Nozzle. Discharges Rockwood FOAM in a solid stream or as FogFOAM. Wide angle makes it possible to cover large areas at one time.

**NOTE: These products have been tested and listed by Underwriters' Laboratories, Inc.*

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
263 Harlow Street
Worcester 5, Mass.

Please send me your illustrated booklet on Rockwood fire-fighting products.

Name_____
Title_____
Company_____
Street_____
City_____
Zone_____ State_____

Another truck's mountain is this truck's molehill

The INTERNATIONAL R-140 4 x 4 makes tough fire-fighting assignments look easy. This four-wheel-drive truck mounting fire apparatus is a real off-highway specialist. It takes in stride the steep hills, sandy soil, and terrain hardly negotiable by standard 4 x 2 trucks.

And it does it at rock bottom operating and maintenance costs. Like every INTERNATIONAL designed for fire-fighting, the R-140 is all truck designed and engineered, for dependability and long life. Every component is specifically designed and tested to stand up under the roughest treatment, and to stay on the job longer, to keep costs down.

Ideal for protection of rural property, the R-140 4 x 4 is the perfect partner of other INTERNATIONAL *specialized* fire truck chassis. There's one exactly suited to the needs of your community. Before you specify any fire truck units, see your INTERNATIONAL Dealer or Branch.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

INTERNATIONAL R-140 4 x 4, mounting fire equipment, is powered by famous Silver Diamond 240 engine, has power take-off openings on right and left side, a 20 gpm. 300-gal. water tank, driven by 31-hp. gasoline engine mounted on body.

International Harvester Builds **McCORMICK®** Farm Equipment and **FARMALL®** Tractors...Motor Trucks...Industrial Power...Refrigerators and Freezers

See the season's new TV hit, "The Halls of Ivy," with Ronald Colman and Benita Hume, CBS-TV, Tuesdays, 8:30 p.m., EST

INTERNATIONAL® TRUCKS

"Standard of the Highway"

2-WAY RADIO BLANKETS WAYNE COUNTY

Radio-Controlled Mutual Aid Has Improved County-Wide Fire Protection

● Chief John Stephan coordinates county-wide fire fighting at mobile headquarters in Lyons, New York.

● Volunteers at Palmyra, New York call direct from the fire scene for assistance from nearby town.

2-WAY MOBILE RADIO

FREQUENCY STABILITY & SELECTIVITY *guaranteed for life!*

Here is a situation where 27 volunteer fire departments banded together under one G-E mobile radio system. The result? Every town in their 607-square mile area enjoys vastly-improved fire protection. For emergency and routine calls . . . for civil defense drills . . . General Electric 2-way radio is the communication channel that coordinates all activities. It saves minutes, miles, and operating money in dispatching rolling apparatus to the scene of action . . . wherever it may be.

G-E mobile radio was selected after comparing routine and emergency performance standards on all makes. Because of low initial cost and bedrock maintenance, G-E won the bid. You can duplicate Wayne County's success with volunteer groups in *your* county. Contact Chief Stephan for a firsthand report that proves G-E is your best buy! Or, write us direct: *General Electric Company, Section X5935, Communications Equipment, Electronics Park, Syracuse, New York.*

Progress Is Our Most Important Product

GENERAL ELECTRIC

ELECTRIC POWER

DELCO-REMY ThunderVolt A.C. GENERATORS FOR EXTRA-HEAVY ELECTRICAL LOADS

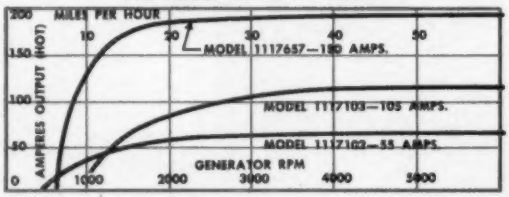
Delco-Remy's new ThunderVolt-12 A.C.-D.C. charging systems are the answer to the *extra-heavy* electrical demands of late-model fire engines, police prowl cars, and other vehicles equipped with two-way radio, floodlights, or other special electrical units. High wattage output is ample for heaviest electrical loads . . . generators pick up discharged batteries quickly in emergencies. Delco-Remy A.C.-D.C. charging systems are unexcelled at curb-idle . . . furnish up to 180 amperes at higher engine speeds . . . are dependable under the most rugged operating conditions at all engine speeds.

ThunderVolt 6 and 12 application packages, complete with installation instruction sheets for popular makes of cars and trucks, are available. Conversion is simple. See your nearest United Motors distributor for additional information.

A.C. GENERATOR PERFORMANCE DATA

Model	Volts	Cut-In RPM*	Curb Idle Amperes*	Maximum Amperes	Power Watts	Recommended For
1117102	12	600	30-40	55	660	All speeds.
1117103	12	975	6	105	1260	All speeds.
1117657	12	625	100	180	2160	All speeds.
1117062-3-4	6	750	30-40	90	540	All speeds.
*APPROXIMATE (BASED ON 100 GENERATOR RPM/MPH)						

A.C. GENERATOR OUTPUT CURVES



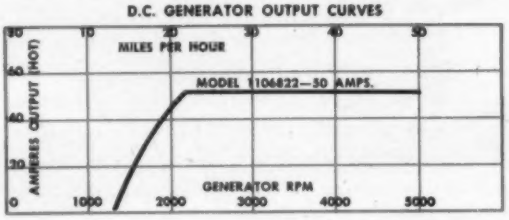
DELCO-REMY ThunderVolt D.C. GENERATORS FOR MEDIUM-TO-HEAVY ELECTRICAL LOADS

Delco-Remy's ThunderVolt-12 extra-output D.C. generator is an economical answer to the electrical needs of late-model fire engines, suburban police cars, rural mail cars . . . other vehicles with additional lights, two-way radios, or other special electrical equipment in medium- to heavy-duty service. Delco-Remy extra-output D.C. generators are low in cost, simple to install, economical to maintain. Performance data on a typical Delco-Remy ThunderVolt-12 D.C. generator is shown at the right. For further details and application data, see your nearest United Motors distributor.

D.C. GENERATOR PERFORMANCE DATA

Model	Volts	Cut-In RPM*	Curb Idle Amperes*	Maximum Amperes	Power Watts	Recommended For
1106822	12	1300	0	50	600	Medium to High speeds.
*APPROXIMATE (BASED ON 100 GENERATOR RPM/MPH)						

D.C. GENERATOR OUTPUT CURVES

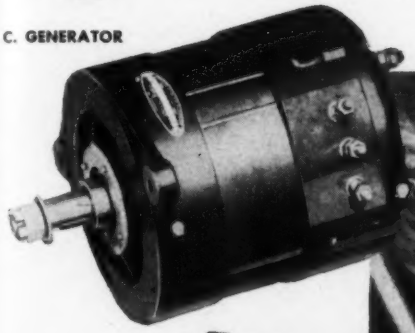


Delco-Remy
ThunderVolt
ELECTRICAL SYSTEMS

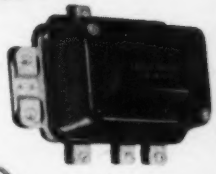
DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

right for the job

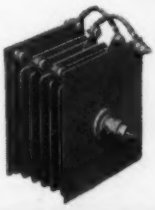
A. C. GENERATOR

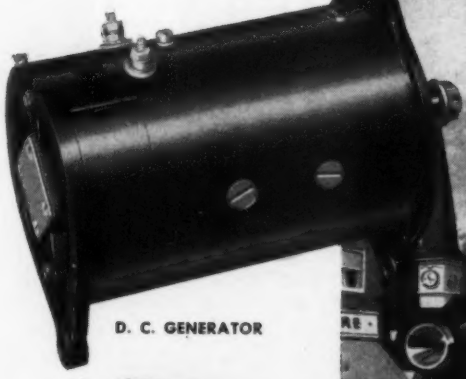


REGULATOR

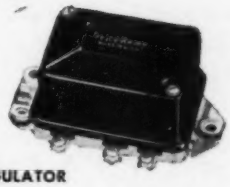


RECTIFIER





D. C. GENERATOR



REGULATOR

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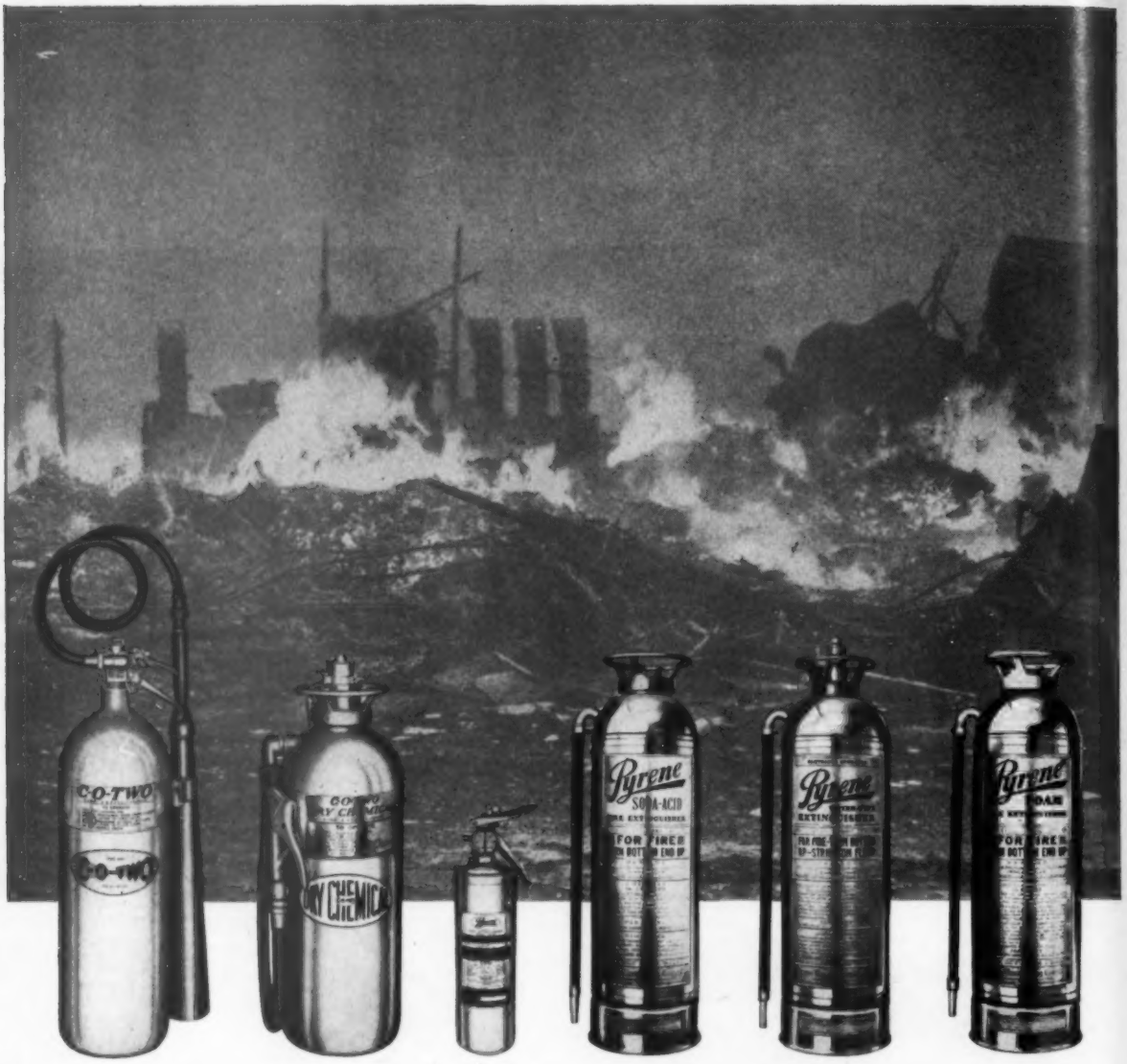
A GENERAL MOTORS PRODUCT GM GENERAL MOTORS UNITED SERVICE MOTORS A UNITED MOTORS LINE



ALL TYPES...ANY CLASS FIRE!

Since different fire hazards require different types of fire extinguishers, PYRENE—C-O-TWO manufactures all types . . . the finest and most complete line on the market today.

When doing business with PYRENE—C-O-TWO, you receive unbiased advice on what is best for your particular fire hazards, whether class A, B or C. Also, there is a well-rounded sales engineering organization having nation-wide representation to render top quality service wherever you're located.

Don't take unnecessary chances . . . the extensive fire protection experience of PYRENE—C-O-TWO over the years is at your disposal without obligation. Get complete facts now!

PYRENE — C-O-TWO

NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

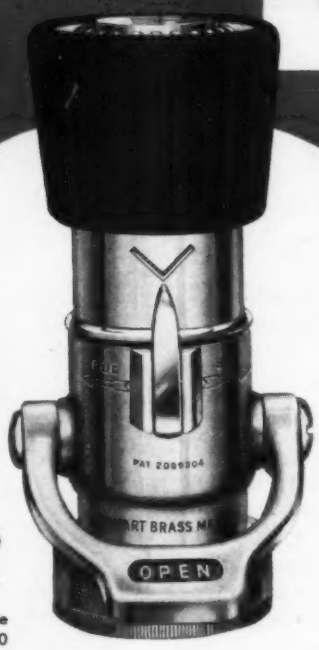
COMPLETE FIRE PROTECTION

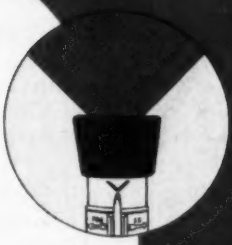
portable fire extinguishers . . . built-in fire detecting and fire extinguishing systems

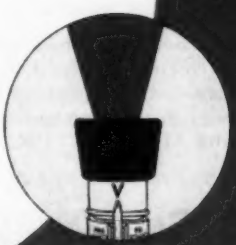
CARBON DIOXIDE • DRY CHEMICAL • VAPORIZING LIQUID • SODA-ACID • WATER • CHEMICAL FOAM • AIR FOAM

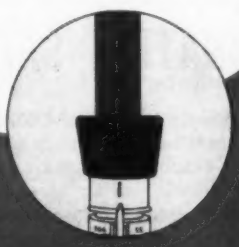
Select-O-Stream

Mystery Nozzle









NEW 1" SIZE

as easy to adjust at high pressure as at low...

In actual tests at nozzle pressures exceeding 500 lbs., the new 1" size demonstrated the same ease in stream adjustment as it did at pressures of 100 lbs. and under — maintaining the excellent patterns of fog and straight stream of the standard Mystery Nozzle.

You get the stream you want—at a finger's touch. And you get it fast. No need to see it... the embossed (Braille-like) Stream indicators "tell" your fingers by touch. The SELECT-O-STREAM MYSTERY NOZZLE locks to the stream you choose. Shuts off in any position. Set to turn on in any position. Protective curtain of water at the wide "V"... 30° fog at the standard "V"... Straight Stream at the "I"—and any degree of stream in between. *Be sure to write for literature now!*

SIZES NOW AVAILABLE—1"—1½"—2½"

ELKHART BRASS MFG. CO., Inc.

OVER FIFTY YEARS OF FIRE FIGHTING PROGRESS

ELKHART, INDIANA

WITH THESE EXCITING FEATURES

SET TO ANY STREAM WITHOUT LOOKING
Embossed stream indicators automatically "tell" your fingers—selects the stream

☆

SHUTS OFF IN ANY POSITION

☆

SET TO TURN ON IN ANY POSITION

☆

LOCKS TO THE STREAM YOU CHOOSE

☆

SEPARATE BALL TYPE SHUT OFF
(Brass to neoprene seat)

☆

IMPROVED GRIP—
serves as both grip and bumper. Mechanically sealed—it won't come off

MIDWESTERN

Safety Clothing for FIREMEN

The Original

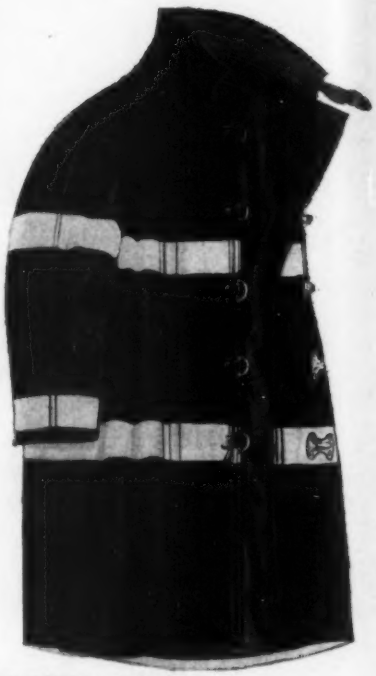
STRIPED SAFETY COAT

- Greater Visibility
- Exclusive Fabric Material
- Exclusive Safety Features
- Superior Design

The striped safety coat for firemen is an *original* MIDWESTERN development . . . featuring highly visible yellow stripes which are *rubberized as part of the material* . . . not painted, glued or sewed on!

Service records prove that Midwestern Striped Safety Coats withstand years of rugged duty . . . offer high safety visibility during the entire life of the garment. Designed exclusively for firemen . . . every detail in construction adds to the service, comfort, protection and long wear of the garment.

As an accident prevention measure, more and more fire departments are specifying Midwestern Striped Safety Coats as standard equipment. There are many imitations but *no substitute* for the workmanship, built-in comfort and longer wear you receive by specifying MIDWESTERN.



MIDWESTERN COMBINATION SAFETY SUIT

The Midwestern Safety Coat and Bunker Pants combination is preferred by many larger municipal departments. Detachable wool linings. Close fitting collar and elastic inner sleeve on coat keep out sparks and water. Pants have double-stitched seams, reinforcing rivets at points of strain, large, roomy pocket space.

QUALITY UNEXCELLED

In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. For complete information, have your Midwestern dealer show you our complete line. A letter to the factory will also bring you literature and material samples for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Safety Coats**

DRAGON
FIRE PUMPS ARE COMPACT

Nothing Protrudes To Catch On Anything!

The width of a DRAGON, including the pump handle, is no wider than the person using it. There are no external parts to become entangled or caught on trees or brush when going through dense woods.

The pump handle can be flipped to an upright position, and the lever shut off and hose can be slipped under the right carrying strap in the front. In this way the operator's hands are free, to push aside branches or obstructions, to climb embankments, use an axe or other tools. In an instant the operator can reach back with the hand and flip the pump handle forward to the operating position. The shut off and hose can be quickly withdrawn, and the pump is back at work. It's a fast smooth operation.

These features may not mean a great deal to the average individual, but to the man on the fire line they are vitally important.

Good fire equipment is not cheap. You may pay a little more for a Dragon, but you will be happy with its high quality and distinctive advantages!

DRAGON FIRE PUMPS meet the requirements of the Underwriters' Laboratories, Inc., and can be supplied with their label of inspection attached.

DRAGON FIRE PUMPS
Now Available in 2 Models

- No. 150-S—Stainless Steel Tank
- No. 150-G—Galvanized Tank (Cold Rolled Steel-Hot Dipped Galvanized after Fabrication)
- All units equipped w/ brass pumps, all Tanks are seam welded
- Capacity of Tank—5 Gallons

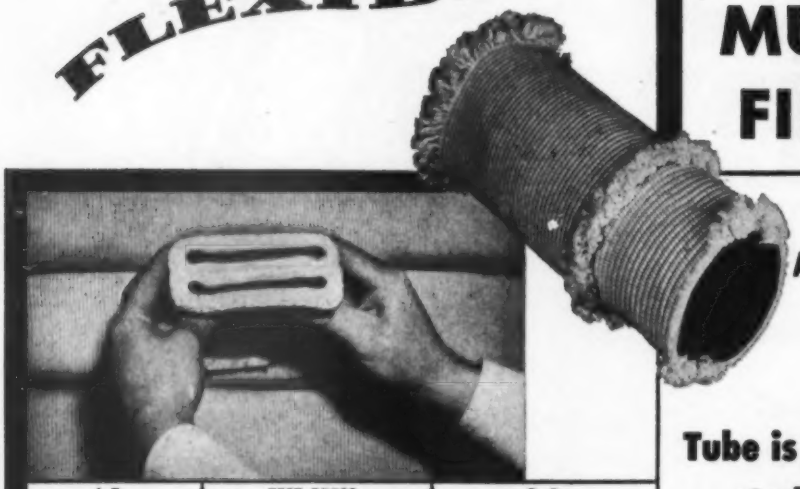
Valuable Distributorships available, write for details

Specify DRAGONS on Your New Fire Trucks

PARCO PRODUCTS COMPANY
PENNSBURG, PA.

FLEXIBLE

BI-ROLL MUNICIPAL FIRE HOSE



All Yarn in Bi-Roll Jacket is Antiseptically Treated.

Tube is Oxygen-Bomb Tested to Insure Long Aging

I. D. IN.	TEST PRESS. LBS./SQ. IN.	O. D. FOR COUPLINGS
1½	400	2"
2½	400	3 1/16"

Special Construction Provides Longer Life • • • Greater Flexibility • • • Greater Safety

Flat Fold Enables You to Store a Greater Amount of Footage in Truck Beds

BI-ROLL JACKET FEATURES

The Bi-Roll Jacket is circular woven in an atmospherically controlled room to insure balanced weaving. Long staple domestic cotton of standard length cords is used for inner and outer jacket. These cords are practically identical in weight which insures balanced construction. This means that twisting, writhing and elongation are minimized when the hose is under pressure.

The finished jacket is carefully inspected to insure freedom from knots, lumps and other imperfections. It can be treated with the Hewitt-Robins special wax and gum impregnation process which cuts down the jacket's water absorption factor—makes it freeze resistant and provides 100% resistance to mildew and rot. This wax and gum treatment gives the jacket a rich, golden hue and does not impair the flexible nature of the hose. Treated or untreated, Bi-Roll remains soft, strong and highly flexible.

BI-ROLL TUBE FEATURES

The tube in Bi-Roll Hose is made of properly vulcanized plantation rubber possessing slow aging, non-cracking, non-blooming, non-acid forming qualities, oxygen bomb-tested to insure long aging. Tube interior is extra-smooth and free of pinholes and pitting. This provides a friction-free passage for rapid flow of water through the hose.

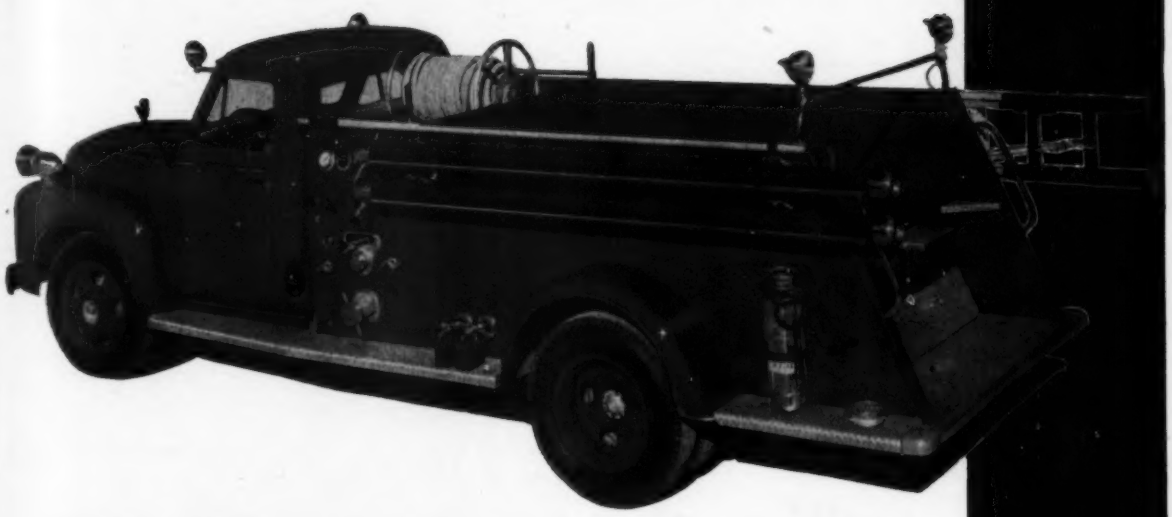
The tube is not vulcanized to the jacket at point-of-fold. This construction helps to prevent cracking when hose is in storage . . . allows greater overall flexibility . . . permits a flatter fold—an important feature which makes it possible to store a greater amount of Bi-Roll in truck beds. This means you can speed more footage of hose to the fire scene with your present equipment . . . handle it easier and with greater safety. You can readily appreciate the additional fire fighting efficiency made possible by these features.

Hewitt-Robins

Conveyor Belting—Conveyor Machinery—Industrial Hose—Vibrating Screens—Vibrating Conveyors—Design, Manufacture, Engineering and Erection of Complete Bulk Materials Handling Systems.

HEWITT-ROBINS INCORPORATED • STAMFORD, CONNECTICUT

SO MUCH PUMPER . . .



FOR SO LITTLE MONEY!

The equipment your department has must be the most dependable fire fighter made today. Your community demands it!

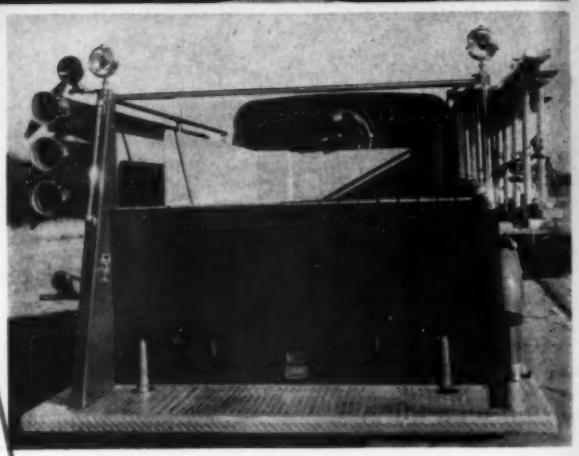
Boardman meets this challenge with a pumper that is designed for years of trouble-free, dependable service. This dependability is proven by the hundreds of departments now operating Boardman equipment from coast to coast, and beyond.

And Boardman pumpers are economical because they are built around the standard chassis of your choice. Here is low initial cost, coupled with economy of operation and maintenance.

Write TODAY for free literature and the amazingly low price.

THE BOARDMAN CO.
OKLAHOMA CITY
1401 S.W. 11TH
BRANCH OFFICE: TULSA, OKLAHOMA

A few choice dealer territories available!



A big 750 GPM pumper with large water and hose carrying capacity.

in the rugged hills of

Vermont

the **Manchester Fire Department**

selected apparatus **BIG** *enough to handle any job!*

Manchester and many other smaller towns are buying apparatus BIG ENOUGH to ensure—

power . . . for pumping and negotiating rugged mountain terrain.

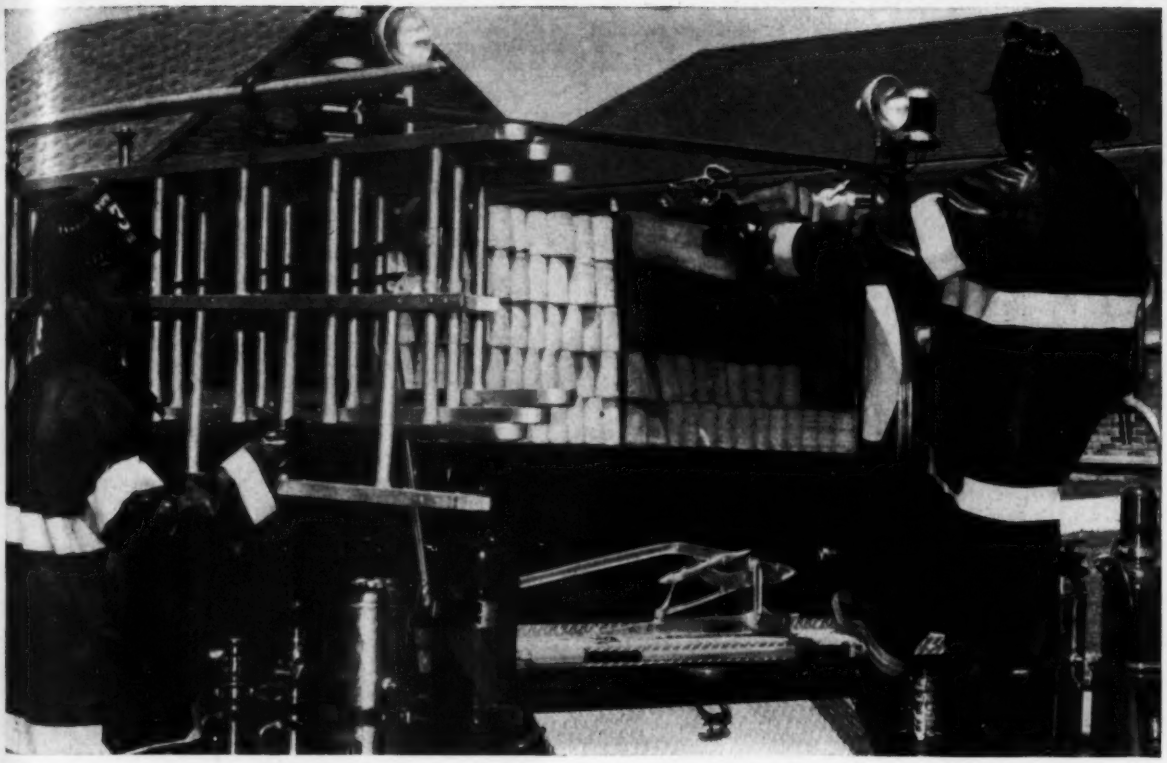
speed . . . for fast get-away . . . for long runs.

load capacity . . . for hose and water.

We manufacture a complete line of fire apparatus . . . available everywhere. . . . Write for information.

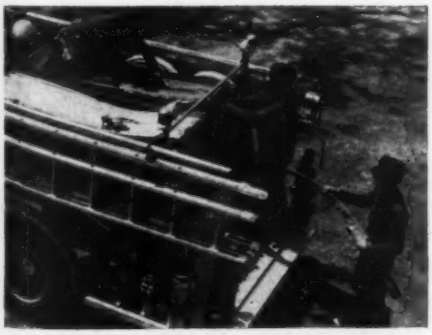
MAXIM MOTOR COMPANY

MIDDLEBORO, MASSACHUSETTS



Michigan Fire Dept. reports:

Lightweight hose made with Dacron* is flexible . . . easy to handle



Flexible hose made with "Dacron" permits fast coiling and racking.

"We've reordered hose made with 'Dacron' several times," says Chief Kenneth L. Roberts of the Inkster Fire Department, Inkster, Michigan. "Hose reinforced with 'Dacron' is easy to handle, lightweight and flexible too— and more of it can be carried on the apparatus."

Photo above shows how 800 ft. of hose made with "Dacron", right rear, racks compactly in same amount of space as 600 ft. of conventional hose at left.

Many fire departments are reporting increased all-round performance from hose made with "Dacron" polyester fiber. Used as the load-carrying "filling" cord that reinforces the hose, this man-made fiber permits a hose that's light and flexible—yet *stronger* than ordinary hose of the same diameter.

The superiority of hose made with "Dacron" has been conclusively proved by two years of field testing under all conditions. Du Pont makes the "Dacron" fiber, but not the hose. Fire hose made with "Dacron" is produced by many of the leading fire-hose manufacturers. Ask your supplier about it the next time you need hose. E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Wilmington 98, Delaware.

*REG. U.S. PAT. OFF.

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Stronger
- More flexible
- Cuts loading time
- Saves space

DACRON

POLYESTER FIBER

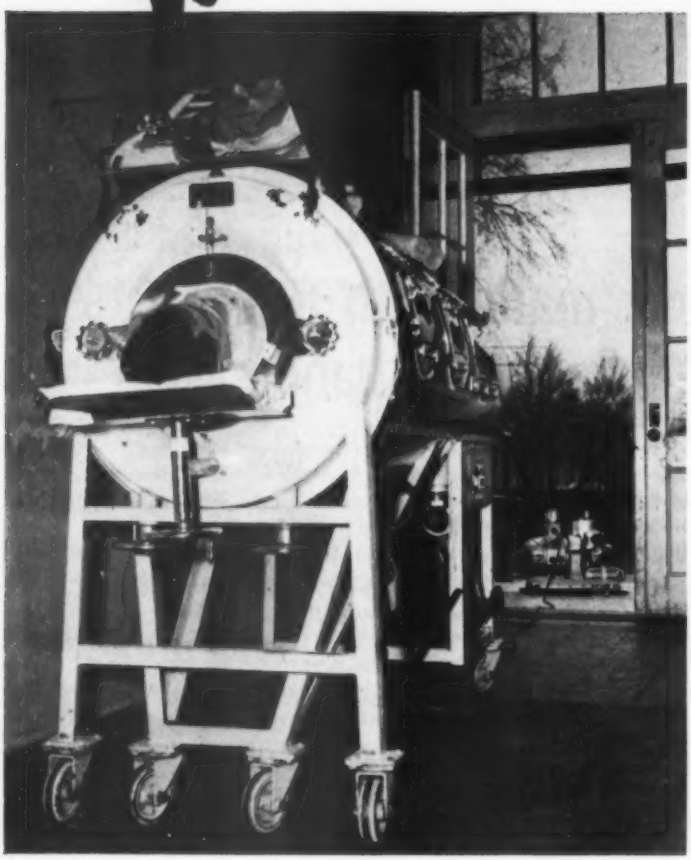
DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

In Addition to Fires...

There are many other uses for a HOMELITE Carryable GENERATOR



Make no mistake about it . . . a Homelite Carryable Generator is the quickest, easiest means of getting brilliant floodlighting on fires. But its value to your department doesn't stop just there. Far from it.

There are many other calls where a Homelite Carryable Generator is worth its weight in gold. During power failures, a Homelite gives you emergency power for operating lights and essential equipment in hospitals, schools and other public buildings . . . or power for radios, communication or signal systems. On night drownings, a Homelite gives you essential powerful lights. And the performance of Homelites after the Worcester tornado points up the importance of having Homelite Generators ready for catastrophies and civil defense.

Write today for our new Fire Department bulletin showing Homelite equipment in action.

Manufacturers of
Homelite Carryable Pumps
Generators • Blowers
Chain Saws

PERFORMANCE · DEPENDABILITY · SERVICE

HOMELITE
CORPORATION
303 RIVERDALE AVENUE • PORT CHESTER, N. Y.

Canadian Distributors: Terry Machinery Co., Ltd., Toronto, Montreal, Vancouver, Ottawa.

SQUEEZES PAST OBSTRUCTIONS

E & J RESUSCITATOR - INHALATOR - ASPIRATOR

ACCEPTED COUNCIL ON PHYSICAL MEDICINE and REHABILITATION AMERICAN MEDICAL ASSOCIATION

When partial obstructions will not yield to aspiration, or when the air passages are swollen almost shut, the exclusive E & J feature "Precision Flow Control" assumes life-saving importance in emergency rescue treatment.
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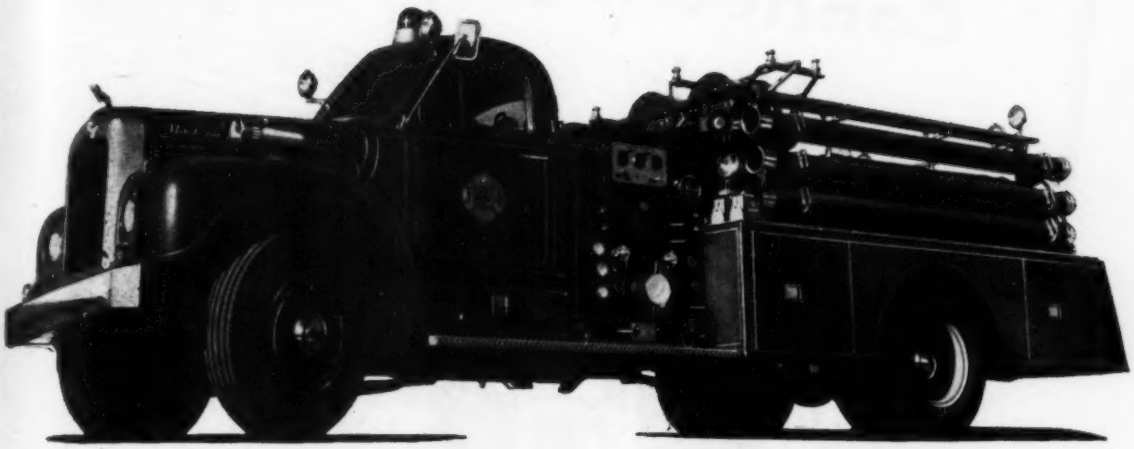

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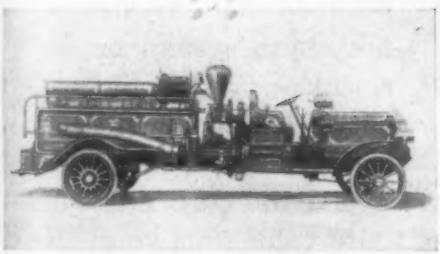

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FIRE ENGINEERING

MARCH, 1955 VOL. 108, NO. 3

With the Editor

An Opportunity for Federal Cooperation

About the time this nation was being jolted out of some of its complacency by the Atomic Energy Commission's dire predictions of a 7,000 square mile fallout of lethally radioactive material, the general manager of the International Association of Fire Chiefs, John D. Gerletti, was appearing before a number of Congressmen and others in Washington, interested in saving this nation from fire.

John Gerletti wasn't there to talk fallout, or Civil Defense. And yet what he had to say bore materially upon both. His prime objective was to discuss the possibility of Federal legislation to develop a coordinated approach to the problem of fire research.

His trip to Capitol Hill was inspired by Chief William J. Taylor of Burbank, Calif., chairman of a committee on Fire Research representing the Southern California Fire Chiefs, the Northern California Fire Chiefs, the Pacific Coast Association of Fire Chiefs, the latter through his position as director in that body. Also, by order of Chief Gray Burnett, president of the I. A. F. C., John Gerletti formally spoke for that organization.

The request of Chief Taylor, and the Pacific Coast fire fighters, grew out of the problems posed by possible thermo-nuclear weapons attack on this nation, and the apparently hopeless task that will face the fire service in such eventuality.

There's nothing new about this problem. This Journal has sounded out on it at long length and has urged the Government, and the Federal Office of Civil Defense, for some straightforward policies on it, and a definite plan and program to which the nation's fire service could subscribe and support.

We have pleaded for factual knowledge about thermo-nuclear weapons, their hazards when employed by an unscrupulous enemy. And more particularly, we have asked for down-to-earth information on the kind of defense that must be set up against bomb blast, shock, fire storm, and radioactive fallout. In a word, we need guidance. And before that, we need knowledge—factual knowledge, born out of factual research; not the contradictory, confusing data handed out by alarmists on the one hand, and super-conservativists on the other.

But the message taken to Washington by General Manager Gerletti went further. It pointed out the need for more sound, basic information all along the far flung fire line, from forest, brush and grass fires, to those involving the nation's lifeline of industry and precious stockpiles; from bonfire to conflagration; from shocking annual death to those 4,000-plus children, to the mass incineration of oldsters such as struck Chicago last month.

In brief, what the Pacific Coast chiefs, and the officers and directors of the I. A. F. C. want can be summed up something like this: 1. Give us, the fire service, the kind of support that other worthy projects receive from Government. 2. Let Government take the lead in reducing the growing loss of life and property from destructive fire in this country by helping set up a sound, workable fire defense policy that will both further bolster Federal Civil Defense and provide greater protection for the nation from normal disasters. 3. Give us legislation at the top, to set up a comprehensive fire research program and cooperating machinery that will encourage the million and more fire fighters in this nation to roll up their sleeves and tackle their problems with new enthusiasm.

So far as we know, this is the first time an accredited representative of the nation's fire forces has ever appeared before any of the nation's top law-makers with a direct plea for such constructive help.

Maybe it is love's labor lost; perhaps it will all die aborning. But to Congressmen Harry R. Sheppard and Edgar W. Heistand of California, and to A. A. Brown and George M. Jemison of the U. S. Forest Service, and others who lent sympathetic ears to Mr. Gerletti's proposal, we express thanks, and the hope that now the spark has been applied, Capitol Hill will "take fire" on this important subject.

Perhaps we're over-optimistic, but we know of no other activity where Government interest and financial backing can be made to pay such healthy dividends in the protection of human life and property, not only today, but tomorrow, as it can in fire research and education.

Fred Shemwell

Overhaul and Salvage— In Theory and Practice

Part I—Overhaul—Its Importance In Fire Extinguishment and Its Relation to Salvage

By ROI B. WOOLLEY
Assistant Editor, FIRE ENGINEERING

Editor's Note: Thirty years ago, Frank C. McAuliffe, Chief of Insurance Patrols, Chicago, said "Fire department officials are often under the impression that if they make their department efficient in fire prevention, control and extinguishment, together with guarding and saving lives, they have reached the limit of their usefulness.

"While it is understood that we have a large field for improvement in fire prevention, control and extinguishment, an enormous field for expansion and improvement in salvage work is open to wide-awake city officials. The necessity for salvage work is increasing yearly, as the tendency of many fire departments is toward heavier streams and higher pressures, which consequently causes a larger proportion of water damage. It is generally conceded that of the annual fire loss approximately 25 per cent is consumed by fire and the remaining 75 per cent is caused in extinguishing and from other causes after fires."

Two decades later, we are still charging off only less than one half of our shocking fire losses to actual fire itself, notwithstanding improvements in our methods and techniques of fire suppression.

From the evidence it would seem that our greatest opportunity to cut these losses lies in the field of more intensive and efficient salvage and kindred endeavors.

That is the belief of the author of this series of studies, which culminate many years of research into the subject.

This, the first installment, is devoted to Overhaul, a close relation to both fire extinguishment and salvage. In the litany of most fire fighters, overhaul has never been viewed as a definite, separate entity in the triumvirate that includes fire prevention, extinguishment and salvage. The author is inclined to believe that it should be so identified. And here, and in succeeding chapters, we set down the reasons.

We hope Chief Woolley's analytical study, when completed, will serve to focus attention on more and better salvage operations and those related factors of extinguishment, such as overhaul, which bear closely upon salvage.

The author gratefully acknowledges the assistance which he has received from the many sources. Where authorities are quoted, acknowledgement will be given at the time of quotation. Other sources will be named and credited at the conclusion of this series.

EVERY experienced fire fighter knows the three cardinal considerations of fire suppression: (1) locate; (2) control and (3) extinguish.

In later years a fourth dual fundamental has been added, namely; overhaul and salvage. This study has to do with the latter.

The problems of control and extinguishment of fires have been studied and discussed in fire departments, in fire schools and colleges, and in fire service manuals and other literature. But the science and business of overhaul and salvage have not received the same degree of attention and consideration, particularly in certain branches of the fire service.

There are several reasons for this: in the first place, overhaul has been considered by some an adjunct of the job of extinguishment; by others, it has been more related to and a part of salvage operations. Actually, it is both.

The Chief of Department, Assistant Chief and a District Chief were killed during final mop-up stage of a flash fire in a paper products plant. Expansion of the 2,500-pound bales of paper pushed out a wall, releasing tons of water-soaked stock to bury the three officers and several other firemen who, more fortunately, were rescued alive.

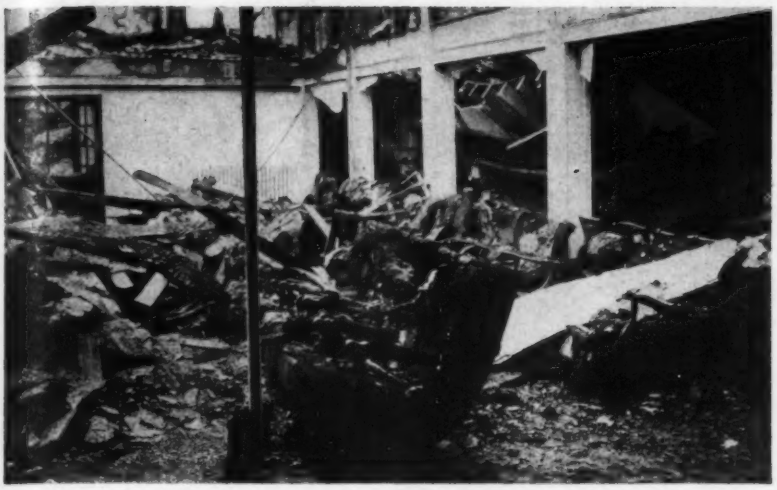
In days gone by, overhaul consisted primarily of making a cursory survey of the fire-damaged premises to determine if any fire "showed." Fire extinguishment was largely a matter of "drowning out a fire," and extinguishment was accomplished without too much regard for the damage water and firemen might do in extinguishment. If any fire, or heat was found remaining in either the fire building or its contents, following control of the blaze, the general idea was to give it an extra washing down "just to be sure."

While this no doubt served to prevent rekindle of the fire, it contributed little to the task of salvaging anything the actual fire did not destroy, and it very materially increased the total losses stemming from the incident in question.

It was doubtless natural that efforts to salvage property as developed down the years by the insurance companies should, as time went on, focus attention on the destructiveness rising out of the fire extinguishing operations themselves. It is quite possible there was some truth in the old saying "the firemen destroy everything the fire doesn't."

Just when the old idea of "how much water can we throw at or into the fire" began to give way to the more scientific concept of "how much fire can be put out with how little water," is not known. It may have its beginning with the inauguration of the paid, professional fire forces. We do know that as far back as the 60's underwriters were pointing out that property losses due to water and smoke averaged more than damage caused by the fire itself.

Regardless of where or when the idea caught hold, it was only natural that as time went on the business of



Fires in furniture occupancies present tough problems in overhaul and salvage. Firemen had to fight this fire from outside and there was little opportunity for spreading covers before the interior became involved. Many firemen have been killed or injured overhauling under conditions such as these (note collapsed balcony).

fire control and extinguishment would come under scrutiny and study, and that it would undergo refinement and improvement that has characterized the progressive development of all American businesses and professions.

Some authorities believe a contributting factor to slow realization and acceptance of the principles of overhaul and salvage was the fact that salvage was performed in those days, by specialists, separate and apart from the fire service. The old-time fire fighter's job was to put out the fire, and get back to quarters as quickly as possible. The question of saving anything out of the ruins and wreckage was something for the insurance man and salvage corps, granted the community was fortunate enough to possess one. In fact, it is recorded that even with the prodigal use of water, salvage corpsmen upon occasion were known to have discovered sparks and fires in the ruins and to have gotten to work on the re-kindles.

As time went on and experts in fire suppression came to the fore, and as pride in doing a professional job increased, the functions of overhaul and salvage came under still further study. This was given impetus as the insurance underwriters got out from under the burden of salvage operations. But it must be admitted the number of experts in the field of salvage was limited—and it still is. This may account for the fact that the subject, with its near relative, overhaul, has generally received such scant attention in fire service education and training.

It is gratifying to note that at long last these subjects are beginning to have a place on the agenda of the more modern fire schools and colleges. And it is encouraging to observe that salvage is now practiced in some measure by progressive fire departments, both professional and volunteer, throughout the country. Nevertheless, the broad ramifications of salvage operations. and their impact on both the public and the fire service itself, still leave room for improvement.

It is the hope of the author and the editors of *Fire Engineering*, that this study of the principles and practices of overhaul and salvage may speed that advancement.

Definition and Purposes

For purposes of this study, the definition of Overhaul is: The practice of searching for any spark, embers or fire that may remain in a building, or in any structure, place or thing, that may have been subject to a fire or explosion.

It is difficult to define overhaul because, at least in the modern connotation, it is inextricably linked with salvage. In fact, a number of authorities refer to the practice as "salvage overhaul." It may safely be assumed that overhaul is a kindred function to both extinguishment and salvage.

From the standpoint of the firefighter, overhaul means investigation and action following a fire or explosion to determine any or all of the following:

1. Whether or not fire, or elements that may cause fire, remain in any building or its contents, or other property exposed to fire and if such threat exists, to remove it. In brief, to prevent rekindle.

2. What caused the fire, and where it originated, with emphasis on the possibilities of arson.

There are two major objectives to be borne in mind in carrying out overhaul. These are, first to accomplish the final and complete extinguishment with the minimum of damage to the building and/or contents, or any other property involved in the incident. And secondly, to leave the building and occupancy in as safe, habitable condition as possible.

We have said overhaul has a bearing on salvage operations. This is particularly true where valuable structures and stocks may be involved.

A good rule for every fire fighter to keep before him in performing overhaul, as well as essential fire extinguishment and salvage, is this: *Be as careful and considerate in your work as though the material you are handling were your own and you had no insurance on it.*

Another bit of good advice is that advanced by the late Thomas F. Dougherty, assistant chief of the New York Fire Department, who said: *"Whether this operation* (overhaul) *is carried on in a humble home, a high-class residence, factory, commercial building, a small retail business or other place, there is, as a general rule, some part of the stock or contests that may be salvaged."*

Rekindle

From the viewpoint of the experienced fire officer it is always considered a reflection on the ability of the officer in charge of an operation to have to return to the scene of a fire, following its supposed extinguishment, to cope with a rekindle.

Overhauling baled goods, like cotton, is at best a tedious and nasty business. Here fire fighters wrestle a lot of cotton (26 bales in all) to locate and kill a little fire. The special cotton hooks shown are generally germaine to the South.

Chaotic condition shown here was not due to careless overhaul but to suicidal gas explosion which wrecked apartment. Firemen check wrecked area for hidden fire. Incidents like this may create special problems of overhaul and salvage.

Care should be exercised in overhaul and salvage of records following a severe fire, such as this in a university research office. Sudden exposure to air may result in flash re-ignition under these conditions. Here records smoldered 20 hours after fire had wrecked the building.

Although in most cases a rekindle is due to failure of overhaul operations somewhere along the line, some rekindles of fires, after the fire department has left the scene, have been due to circumstances "beyond the control of the department."

Naturally, the larger the fire and greater and more complicated the area of involvement, the greater the possibility of rekindle, or to be more accurate, of rebirth or renewal of the original fire. There are certain types of occupancies where post-extinguishment rekindles may be expected more than in others. There are types where final and complete extinguishment is exceedingly difficult and where continued watch must be maintained over the fire area for prolonged periods.

There are also fires, where because of the value of the property involved, overhaul is of necessity limited and rekindles may be expected as a natural outcome. Also there may be circumstances which call firemen away from their overhaul job.

Rekindle need not necessarily mean recalling the department to the fire scene. It will depend upon the nature and extent of the rekindle, and the measures taken to guard against it, by fire and police departments (and salvage corps, if such are maintained).

Whenever there is doubt over the final outcome of any fire, the officer in charge should provide for a watch over the property. In large municipalities, where there are fire patrols, these services frequently leave a man, or men, to watch the premises and to conduct salvaging operations. They can readily deal with incipient outbreaks if left the proper equipment for the purpose.

With the shortage of manpower in many departments, it is not always possible to leave firemen and their equipment to guard the scene. Nor is it always possible to detail policemen for the purpose. Even where this is done, such officers can not be expected to perform fire fighting duty and their only recourse, if fire rekindles, is to summon firemen.

It is a safe axiom that where there exists the slightest doubt over complete and thorough extinguishment, a watch should be set over the property. Watch lines should be stretched and possibly charged, ready for action. Decision on this detail must be made by the officer in charge.

At this point it might be well to point out that in a number of instances where there were rekindles, the second fires proved even more destructive than the original ones.

Overhaul Is Essential—But Tedious and Dangerous

The task of overhaul at most serious fires is protracted, and dangerous. As a function of fire department operations it generally consumes more time than actual fire extinguishment. Many fires are quickly knocked down and controlled which require extended overhaul before thorough and complete extinguishment is effected, and all dangers of rekindle are removed.

Even though partial or complete extinguishment of the fire may be effected by the occupants of the building involved themselves, or by automatic sprinklers or other means, some checkup and overhaul on the part of the fire force may be necessary.

Not only is overhaul considered by many authorities the most tedious and distasteful task of fire suppression, but it is ofttimes dangerous. Many fire fighters are killed or injured during the overhaul phase. Some of the more important hazards connected with overhaul are discussed later in this study.

Not only are firemen doing overhaul exposed to toxic smoke and fumes, but they are subject to the dangers of storages, such as chemicals, acids, flammable liquids and explosives. Infections due to cuts and scratches resulting from the handling of foreign matter in overhaul are common.

Falling floors and walls have trapped and killed many firemen doing overhaul. Floors stocked with absorbent goods may be dangerously overloaded as they pick up water from hose streams and need only the added weight of men, or the shock of axes or other tools used in overhaul operations, to give way.

Attempts to get at concealed fire may bring down a false ceiling or stairway, or drop heavy elevator machinery. Operating as overhaulers must, in structures possibly already seriously weakened by fire, extreme caution is paramount.

Who Performs Overhaul?

We have said overhaul can be a time-consuming, dangerous job. Nevertheless, properly executed, it can represent a benefit and a saving to the property owner and the insurance company, and it can be a builder of better relations between fire service and public.

We have said also, that overhaul is closely related to fire extinguishment and salvage operations. It is not a separate individual function to which certain men may be detailed, as in salvage operations. On the contrary, overhaul generally must be undertaken and shared by all hands in a fire department. The laddermen perhaps may have the stellar role, but hosemen and enginemen, and even rescue crews, may be part of the overhaul team.

The modern fire fighter is expected to be versed in all fire control and extinguishing operations. He is no longer exclusively a "water squirter" or a "ladder raiser," as in the old days. He may be a member of a ladder company today and detailed to an engine company tomorrow . He is expected to know the fundamentals of fire extinguishment and its near-relative, salvage. In this connection he should be taught the importance of what we call overhaul and its relation to all the other steps in the fire suppression cycle; and what is also

essential, the part each man and each company in a department may be called upon to play in overhaul operations. Without that understanding and knowledge, and without the supervision and direction that is essential in serious fire operations, efficient overhaul is difficult, if not impossible.

Until recent years not many fire fighters have had a clear picture of the function of overhaul and its relation to basic control, extinguishment and salvage operations. The part and place each company, each crew member, each team in the company unit, must play in order to have efficient, smooth-working overhaul has been too often little understood.

Overhaul, like salvage, calls for teamwork above all. Laddermen and enginemen, or hosemen, should team up preferably, of course, under an officer's direction. But even without an officer supervising details, the operation can proceed smoothly, if the men know their business.

Charged lines or other essential extinguishing agents for the task should be available to quell any outbreak of fire. Normally, these should be manned by enginemen or hosemen. The details of opening up concealed spaces, or pulling ceilings, cutting walls or floors, and the like, are likewise usually left to laddermen. But in the modern overhaul team, hosemen do not necessarily stand idly by, nozzle in hand, waiting for their ladder company mates to complete their opening up before "giving it a dash." They take their turn with axe, claw and hook, just as laddermen may help them "light up" on the line. Overhaul, as we have said, is a time-consuming, tedious task. The time and effort depend upon the smooth functioning of those detailed for the duty and the systematic way they go about their business.

In most municipal departments it has long been the custom for the first-arriving fire units to be the last to leave the scene of the fire; in short, for them to conduct the final check up and search in what we call overhaul.

There has been some difference of opinion over this practice, which apparently has been handed down from the horse-drawn apparatus era. Why, ask those who would revise the procedure, should fire fighters who, being first on the scene and of necessity were forced to take the most punishment, be kept after all others have returned to quarters, to perform the arduous duties of overhaul?

The situation is further aggravated today by the almost universal shortage of personnel in fire crews. It is not unusual to find the depleted first-arriving forces so exhausted, following their initial attack on the fire, that they are practically useless for overhaul and pick-up. Since that is the case, authorities reason, why not return them to quarters first of all, and leave the final phases of extinction and overhaul, as well as salvage, to the fresher forces that came in later, and which took less punishment? Either that or, if conditions indicate, why not special-call fresh forces to perform the mopping up and picking up? Divide up the duties, they argue, by putting in fresh reserves on the overhaul 'team.'

Of course, first-due companies are expected to know more about the occupancies and hazards in their districts and therefore, logically, should be better able to conduct overhaul efficiently, reducing search and investigation for fire, and the destruction it entails, as well as handling of materials, to the minimum. But even so, proponents of the change in methods advocate, why is it necessary to keep an entire company or all first-due companies for overhaul and cleanup? Why not leave a single man of those forces—for example, the company inspector, or one who knows the property, to serve as guide for the others, selected for the overhaul duty because they are fresher?

There the matter stands. There appears to be no standard procedure for overhaul, so far as personnel is concerned (referring particularly to the paid municipal departments). It is not unusual to have a commanding officer place special calls for units that have not worked at the fire to report in for overhaul and pickup and to aid in furthering salvage.

Chronology of Overhaul

The process of overhaul can be divided into two parts, chronologically: (1) operations while the fire is still burning and efforts are being made to control and extinguish it, and (2), after the fire has been brought under control and there is little danger of its extension, either within the fire building or to surrounding property.

The extent to which overhaul operations, like salvage, can be carried on while fire extinguishing operations are under way depends upon several factors, chief of which is manpower. With sufficient crews, overhaul can follow right along behind the attacking force.

Salvage naturally, must go hand-in-hand with fire extinguishing operations, as the earlier salvage crews can get to work with covers, and to remove perishables from the path of the fire, or out of the way of the water that may be expected to extinguish it, the more efficient will be the salvage effort.

Major overhaul during fire attack operations must of necessity follow attack and not precede it. And while some salvage may be practiced in advance of a fire (as well as following it) overhaul generally must trail attack.

This does not mean necessarily that pre-attack salvage will not have a bearing on overhaul that may come later, or that overhaul, following after attack, will not influence salvage efforts, which frequently continue some time after the fire is controlled. This is in line with the previously mentioned kindred relationship of all three functions—extinguishment, salvage and overhaul.

Today, companies can remain in service after fires are under control, and receive and respond to other alarms, via radio communications, sometimes as promptly and efficiently, as they would from their own quarters via the conventional alarm system. It depends of course, upon how these units are extended at a fire i.e., the crews and equipment distributed throughout the fire

(*Continued on page 272*)

Not a warehouse, but a tenement house, getting the full treatment. Although not apparent, effective salvage operations held down water losses under these "Niagaras" to the minimum.

L. A. F. D. Bureau Shows Way for Good Fire-Press Relations

By CLIFF DEKTAR

MAINTENANCE of good press relations has posed a serious problem to many fire departments.

Most chiefs and firemen have good friends in the ranks of the newspaper, television, and radio corps, but on the whole, fire fighters can be more successful in their everyday dealings with the press.

A good example of one major American fire fighting organization which has excellent press relations and a unique organization for dealing with the press is the Los Angeles Fire Department.

L.A.F.D. officials believe that their publicity program has aided materially in the reduction of fires in the fast-growing Southern California metropolis as well as helping to build up department morale.

Bureau Organized in 1947

In August, 1947, the L.A.F.D. organized a Photo and Publicity Bureau as a branch of the Administrative Office with Capt. Claude Conlin, Jr., a veteran fireman, in charge.

Prior to this time, there never had been a formal publicity setup in the department, but Chief John H. Alderson, one of the most progressive chiefs in the United States, felt that good press relations were extremely important for the overall betterment of the L.A.F.D.

So the bureau grew until today the current publicity staff includes three inspectors, one captain, and a stenographer.

Tall, affable Captain Conlin, a remarkably able man with words, does a good job of summing up the objectives of his unit in the following extract from the 1953-54 Annual Report:

"The aims and objectives of this branch of the Administrative Office are to improve relations between the fire department and general public by the dissemination of actual data concerning departmental services; to prepare and release educational material relative to the prevention of fire; and to improve services to the fire department itself through full cooperation with other assignments."

Among other major activities listed in the report were:

Preparation and distribution of news releases, feature articles, and photographs to daily and weekly newspapers, magazines and trade journals, radio and television stations. Sixty special news releases covering fire ordinance violations, good fire prevention practices, Civil Defense, fire stations, equipment, and personnel, were released to 103 news outlets.

L.A.F.D. Photo

Captain Claude Conlin (standing) talks over a publicity idea with L. A. Fire Department's Big 3 (left to right): Deputy Chief Frank Rothermel, Chief John H. Alderson, and Headquarters Assistant Chief Frank Winkler.

L.A.F.D. Photo

Personal contact is important for publicity bureau personnel. Here Inspector Ken Burton (right) talks over a release with Hank Osborne, acting city editor of the Los Angeles "Mirror." Burton visits papers frequently.

Weekly Fire Hazard Releases Issued

Fifty-two weekly reminders, "Cause for Alarm," carrying pertinent fire hazard information, plus statistics on the weekly number of fires from leading causes, were released to these same news outlets.

Fourteen feature stories with picture layouts were promoted in five metropolitan newspapers. Six special magazine features illustrated with department photographs highlighting the duties, performance, and fire prevention efforts of our personnel, were publicized.

At present six larger community newspapers call the bureau each week for detailed information relative to fires over $500 incurred loss that occur in the areas these papers serve.

"It is impossible to estimate the

countless number of phone calls received from newspapers, radio and television stations, magazine editors, insurance men, school teachers, and the general public requesting pertinent information relative to our activities," the captain reported. "It is important to note that considerable time-consuming research is required to accurately and intelligently inform these people, but we feel that the time is well spent."

Other bureau accomplishments include spot announcements, scripts, news releases and motion picture films dealing with fire safety which were prepared, produced and released to all radio and television stations in the greater L.A. area.

It is interesting to note that 12,000 spot announcements were made over 30 radio stations, while 684 L.A.F.D. films and 576 L.A.F.D. slides were shown on seven television stations.

"I think fire departments have missed the boat over the years in not taking advantage of a good publicity program," Conlin commented.

"For years all the firemen seemed to be interested in was glory, and they completely ignored the many educational outlets available in the press.

"It is only by personal contact with the press and the building up of a good public relations program can you succeed. After all, you can't expect an editor to put out information unless you tell him.

"After a while, you'll find that you have champions for your cause. It is vital to understand the importance of personal contact, because the fire department can't run its own newspapers or television stations."

The manner of presentation of news to the press, radio, and television is important, too.

"You just can't come around to these media with the same old hackneyed handouts," the veteran fire publicist commented. "You must look for a gimmick to put the same old warnings in a new dress; say it over and over again, only in a different way."

An example of something different is the "Cause for Alarm" weekly reminder which lists the major classifications of alarms during the past week and total during the year. A two or three paragraph release is also included which varies according to the time of year.

"You'd be surprised with the results we get from this routine release," Conlin said. "Sometimes we even end up with a Page 1 newspaper box plugging anything from not smoking in bed to being careful with incinerator burning."

The captain feels that fire departments have everything to gain and nothing to lose by cooperating with news dissemination agencies.

"I think that the bulk of the population will think on its own, if properly stimulated," he said. "In my opinion, 80% of the people who read the information we put out benefit by it in one way or another."

The L.A.F.D. publicists work in close cooperation with the Fire Prevention Bureau and with other agencies interested in fire prevention in the area, ranging from the L.A. Junior Chamber of Commerce to the L.A. County Fire Department and the State Fire Marshal's Office.

For example, F.P.B. personnel take all speaking engagements, which leave the publicity personnel free for press activities.

During the Christmas holidays a cooperative campaign was worked out for the major newspapers and radio and TV with the L.A. County F.D.

"This cooperation with the County prevented duplication of effort," Conlin pointed out. "This way we all did a better job in informing the public of the hazards existing in homes at Christmas time."

All personnel in the bureau have routine assignments, but each man must also be able to fill in another job.

L.A.F.D. Photo

Backbone of L.A.F.D. publicity staff (left to right): Inspectors Ken Burton, Otto Firgens, Bob Patterson. Note tape recording equipment.

L.A.F.D. Photo

Inspector Bob Patterson does a narrative on tape on the scene of a fire where two men, with bandages on head, have received burns. Tape is later worked into radio release plugging fire prevention.

L.A.F.D. Photo

Inspector Bob Patterson holds mike for tape recorder up to two firemen from Truck 3, as they overhaul structural fire. Patterson does much work in field with camera and recorder.

Inspector Ken Burton is the newspaper representative. He frequently makes the rounds of the five major newspapers, "The Times," "Examiner," "Mirror," "Herald-Express," and "Daily News." Burton's job is to talk with editors, columnists, and reporters, and to drop off releases on various activities. He also handles most requests of small dailies and weekly, community papers.

Inspector Otto Firgens is the radio-television representative. He makes the rounds of the stations with spot announcements, films, and slides, and in general builds up contacts just like a high-paid publicity man from a Hollywood movie studio.

The third member of the team is able, soft-spoken Inspector Bob Patterson. Patterson at present is producing a series of educational films on the fire department in action.

Patterson rolls to most major alarms and a lot of smaller ones, too, equipped with a tape recorder and takes down on-the-spot information. During last year's bad fire in the Chatsworth Area, Patterson with his tape recorder was right in the center of the boiling turmoil. His recording was later worked into a dramatic 15-minute radio program which was released over several local stations. Films, taken by L.A.F.D. photographers also are moulded into fire prevention plugs.

"We do it subtly," Patterson pointed out. "People who hear or see the horrors of a fire will think twice before they make a careless mistake themselves."

Patterson also does some fine cartoons for various releases. From time to time he stays at various engine houses and with tape recorder and camera rolls with first-in companies to more completely capture dramatic events for the programs.

The publicity staff helps newspapermen with feature stories, too.

"We have a departmental policy that all feature-type information must be cleared through our bureau," Conlin said. "If a reporter was to walk in a fire station and want to do a story, the captain would immediately contact us.

"If it were a simple matter, we'd promptly clear it, but if it were more complicated, one of the staff would go out and personally assist the reporter in gathering his information."

The captain or one or more of his men usually respond to all major alarms. They attempt to assist reporters on the scene in gathering information. Information on a fire, however, is released by the senior chief in charge, but the publicity staff often is able to expedite matters.

L.A.F.D. Photo

Inspector Ken Burton and Publicity Bureau Stenographer Delores Glentzer. Burton is dictating information for weekly "Cause for Alarm" release.

Complaints from the press are also headed by the bureau, but Conlin admitted that he had received only one complaint during the last year.

Considering the scope of L.A.F.D. operations, that could be considered as a pretty good record.

The captain pointed out that not only his staff, but every fireman on the job, has helped to build the excellent press relations of the department.

"One of our key spots in keeping the papers happy is our alarm center at Westlake. Chief Curtis Hart has done a fine job in briefing his personnel to keep the press informed on spot-news-type of departmental activities."

A direct phhone line from Westlake to the Police Pressroom in the City Hall is maintained by the department to facilitate transmission of information from the department to the press or to enable the reporters to obtain information from the department without delay.

L.A. newspapermen, incidentally, are great boosters of the L.A.F.D. except for one thing.

"Those L.A. firemen are so damn good," one photographer pointed out, "that they put most of the fires out before we can get there to take a picture."

Conlin is extremely proud of comments like that, although he admits that the activities of his bureau may have been helpful in raising the L.A.F.D. to its current Class 1 rating.

The captain believes any fire department can have good press relations, but he points out that it takes work.

"If I were a chief in a small or medium sized community, I'd get to know the newspapermen who cover fires. I'd have them over to the station for dinner; take them for a ride on a rig.

"Above all I'd try to show them that firemen are human and have real hearts."

Conlin, incidentally, selects his own personnel carefully.

"I put an announcement in our weekly bulletin that a position is open and then carefully interview the best applicants."

And the captain also does not hesi-

(*Continued on page 269*)

Los Angeles Fire Department
Office of the Chief Engineer
217 South Hill Street (12)
MU. 6161 Captain Conlin

December 6, 1954

FOR IMMEDIATE RELEASE

CAUSE FOR ALARM

Report of Fires

Leading Causes	Past Week	Since Jan. 1st
1—Burning Rubbish	52	3222
2—Electricity	57	2407
3—Careless Smoking	41	1868
4—Heating and Cooking	40	1644
5—Children with Matches	12	726
6—All Other Causes	77	6078
7—Total Fires	279	15945
Brush and Grass Fires	5	2545
Fires in Homes	132	5593
False Alarms	45	1690

WEEKLY REMINDER:

Christmas shoppers are cautioned to be on the alert for lamps, heaters, hair curlers and other electrical gadgets of obscure make that usually flood the market during the holiday season. Look for the label of approval or insist on seeing the UL list of approved products issued free to dealers or individuals upon request.

Specimen of "Cause for Alarm," a weekly reminder sent to 103 news outets

NEW ATTENDANCE RECORD SET BY TWENTY-SEVENTH F.D.I.C.

1,876 Registered at 27th Annual Gathering in Memphis

A Staff Report

IT becomes increasingly difficult to attempt to describe the annual Fire Department Instructors Conference without resorting to superlatives. For the Conference, unique in the annals of fire suppression, is superlative. And the 1955 gathering was no exception.

To the fire department instructors, chiefs and other registrants, 1,876 in all, who came from nearly every state in the country and from Canada, Venezuela, Puerto Rico, Alaska, Hawaii and other far places, it "had everything." Once again did Dick Vernor, chairman of the Conference, and his crew of experienced Conference technicians, set a fast pace. Once again did the Memphis Fire Department, under the paternal direction of Chief John Klinch turn in a superlative job.

If anyone questions the task of receiving, registering, housing and feeding 1,876 inquisitive, hungry delegates with but a single aim and interest, let him take a leaf from the history of F.D.I.C. as it is written yearly under the joint sponsorship of the Western Actuarial Bureau, Chicago, and the Memphis Fire Department.

In keeping with the split-second timing of Chairman Vernor, the Conference was opened at exactly 9:23 A.M.. Tuesday, Feb. 22, at the spacious Memphis Auditorium.

The purposes and aims of the Conference was summed up by Chairman Vernor in a single paragraph: "You are all guests at a private party," he said. "This meeting is different from all others. There is no organization other than to implement the meeting. There are no politics. Nobody is running for office . . . we are gathered here in good fellowship for one purpose only . . . to help each other do a better job."

Hospitable greetings were extended the visitors by Mayor Frank T. Tobey; vice-mayor and fire and police commissioner, Claude A. Armour; Fire Chief John Klinck; Chamber of Commerce President Roene Waring; Tom P. Mitchell, president of the Memphis and Shelby County Council of Civic Clubs, and William W. Farris, president of the Junior Chamber of Commerce.

Col. Harold R. Brayton, Texas A. & M., set the theme for the Conference with his colorful presentation "Picking Cherries" bearing out the Washington's Birthday motif. "Two obligations are ours," he said, "to participate here and become highly charged, and to transfer these charges to individuals in our own communities."

Charles S. Weber, chief of training, Michigan Civil Service, got down to the business in hand with an address "Methods of Evaluating Firemen." He urged more training clinics; making the trainees do the analyzing rather than the trainers; less talking, and more training-by-doing.

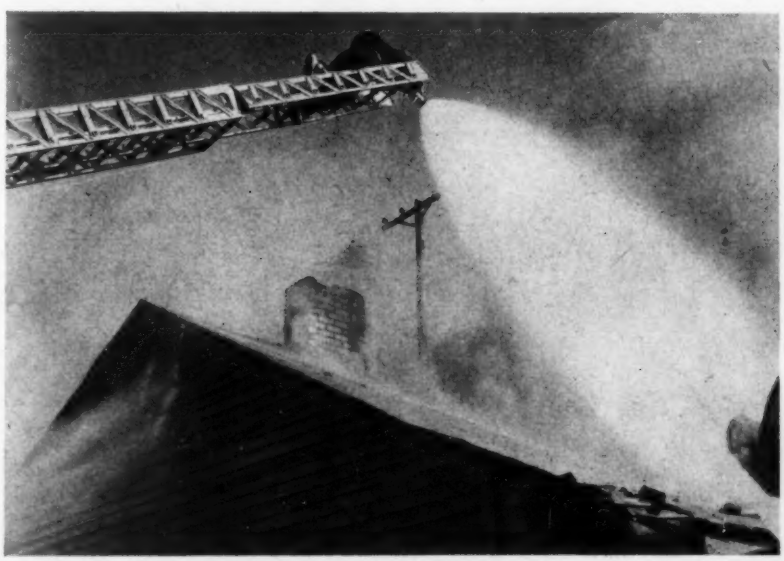
A panel of "expert experts" on fire service training, as Warren Y. Kimball, moderator put it, reviewed current developments in four areas of specialized instruction: officers, inspectors, instructors and the use of water fog in training. The panel consisted of Fred Heisler, Oklahoma A. & M.; W. S. Thompson, Engineer, Ohio Inspection Bureau, Columbus; M. D. Whale, Supervisor, Pub. Service Training, Michigan Department of Public Instruction, and Chief Roi B. Woolley Assistant Editor, FIRE ENGINEERING. "Fog has ramifications and possibilities far beyond those we learned when we first tried it out," Woolley said. "Today more manufacturers are making fog nozzles; more types and kinds are being made; fog is in more training curricula, and in more promotional examinations than ever before. More than any one thing, water fog has given firemen confidence in their ability to kill a lot of fire with the minimum of water."

The luncheon held for the first time in the main auditorium (to accommodate the augmented audience of over 1,500) was prepared and served entirely by the Memphis fire fighters.

Probably no single F.D.I.C. gathering ever heard such an impassioned plea for reducing the nation's costly loss of life and property from fire than that delivered by the luncheon guest speaker, Jay W. Stevens, N.B.F.U., San Francisco.

The context of Stevens' appeal followed closely FIRE ENGINEERING's feature study and editorial in the February issue. This came after T. F. Schmidt, Ansul Chemical Company, presented Dick Vernor and Chief John Klinck, with remote-controlled toy aerial ladders. Chief Stevens was introduced glowingly

Fire Chief John C. Klinck, Vice-Chairman, flanked by Emmett T. Cox, also Vice-Chairman, and Dick Vernor (right), Chairman, F.D.I.C.



Memphis fire fighter adjusts large fog nozzle for desired fog pattern during demonstration at F.D.I.C. to cool off roof area and reduce burning embers, while rest of structure was involved. Note power wires in background and scorched pole.

by Baton Rouge, La., Fire Chief Bob Bogan. Stevens told the Conference the fire service is not going to get results until thoroughly competent, trained firemen make frequent and detailed inspections of EVERY building in cities. He quoted figures in FIRE ENGINEERING to back his contention that the fire presentation story must be taken into the home, and fire fighters trained to know how to do this.

The demand today is for capably trained and tested fire department officers because the job of managing a fire department is steadily becoming tougher, Mark Brosier (Iowa State College) told the delegates in his talk "A New Approach to Leadership." He was followed by Miles E. Woodworth, Flammable Liquids Engr., N.F.P.A., who also urged that inspections include study of all flammable and chemical liquids stored in tanks. His topic was "Your Flammable Liquids Problem."

The interesting and enlightening story about the fog nozzle tests being conducted by the University of Maryland, under direction of Robert Byrus, Director Fire Service Extension, was told by the latter, and enlightened by colored slides. Byrus was followed by two speakers whose subjects were "Training Center Trends." They were John F. Hurley, Batt. Chief and Director of Training, Rochester Fire Department, Rochester, N. Y. and B. H. Weinholt, Deputy Chief, Baltimore County, Md., Fire Department. An outside demonstration of Unox synthetic foam, conducted by Lee L. Bowman, Sales Engineer, McFarland Mfg. Co., Dallas, wound up the first day's busy sessions.

Wednesday's sessions opened with a Question and Answer period in which a panel of experts endeavored to find the solution to problems facing the delegates. The panel consisted of Harry L. Kruger, Asst. Mgr., Ohio Insp. Bur., Columbus, O. leader; Clay A. Easterly, Fire Marshal, Martinsville, Virginia; Frank A. Hollenback, Instructor, State Dept. Pub. Inst., Vocational Education, Helena, Mont.; J. V. Kitchens, State Fire Marshal, Montgomery, Ala.; Donald G. Mees, Engr. Mountain States Insp. Bureau, Denver; T. E. Peters, Chief Fire Insp., Plant Protection Dept., Delco-Remy Div. G. M. C., Anderson, Ind.; Reg Swanborough, Dep. Fire Chief, Hamilton, Ont., Canada.

Radiation Hazards in Fire Department Operations was the subject covered by Frank L. Brannigan, Safety & Fire Prot. Br., U. S. Atomic Energy Comm., Washington.

Radiation is simply another hazard for the fire service, which already is a hazardous occupation, he said, and a fireman doesn't have to be a nuclear expert to protect himself. There are two problems: internal radiation (obtained by breathing or swallowing) is the equivalent of "chemical poisoning," and the same precautions apply; and external radiation (from outside the body), which does damage as it goes through the body. Precautions against it are: time, distance and shielding.

A graphic account of how his department fought the long and gruelling Memphis barge fire, beginning at 12:20 P.M. Oct. 2, 1954 (see FIRE ENGINEERING, January, 1955), was given by Chief John C. Klinck. He emphasized the effectiveness of the department's new "Stream Masters" used for the first time in number, at this fire. Chief Klinck also outlined Memphis' new "Operation Unattended Children" in which home inspections teamed with intensive educational and publicity effort to materially reduce the toll from fire among children.

The story of the fire control program at Ford's huge River Rouge plant (1,200 acres, 60,000 employees) was given by J. E. Patten, Supervisor, Plant Prot. Section, Ford Motor Co., Dearborn, Mich. His formula included: (1) thorough, regular inspections; (2) organization and training of 50,000 employes as "minute men" in first-aid fire fighting.

A. L. P. Schmeichel, Engr., W. Va. Insp. Bureau, urged use of water foam as a "New Idea in Exposure Protection," after which the luncheon audience heard Robert F. Hamm (Indiana Insp. Bureau) hit a high note in inspirational messages under the subject: "Your Fire Department Box Score." Drills, training, education, inspection, fire prevention activities and public relations were all urged for further consideration by the speaker. The speaker was introduced by R. D. MacDaniel, V.P., Grain Dealers National Mutual Fire Ins. Co., Indianapolis.

Three "Town Hall" speakers opened the afternoon's sessions. They were Capt. Arnold E. Caswell, Muskegon, Mich., F.D. (how fire departments could get the most out of fire prevention bureaus); Battalion Chief Emmet H. Byrne, Cleveland, Ohio (who described a new, lightweight, gas mask-inhalator-resuscitator which uses oxygen cylinders for charges), and Norman H. Davis, Jr., Underwriters' Laboratories (who told about U.L.'s new plant).

Carbon tetrachloride is extremely toxic in even low concentrations, warned Bernard D. Bloomfield, Ven. Engr., Michigan Dept. of Health. He related a number of case histories and condemned the sale and use of glass globe type carbon tetrachloride fire extinguishers.

A carefully documented, timed and dramatic story of "Photography at Work in Your Fire Department" was presented by members of the Minneapolis (Minn.) Fire Department, headed by Chief R. C. Malmquist. It bridged the whole gamut of picture possibilities: in arson; fire hazard compliance; condemnation proceedings; fire prevention; trapping false alarm senders; fire force training, etc.

The final session included out-of-doors evolutions and demonstrations in a nearby field, under directions of Jos. I. Fetters (University of Missouri) and Warren Y. Kimball (N.F.P.A.) and units of the Memphis Fire Department.

The third day's schedule opened with a Question Box Session, with Dale K. Auk, Fed. of Mutual Ins. Co.'s., Chicago, as Chairman. The questions covered a wide range and were discussed by an erudite "answer gang" comprising Messrs. Baird, Dear, Mangels, Wittaker and Davis.

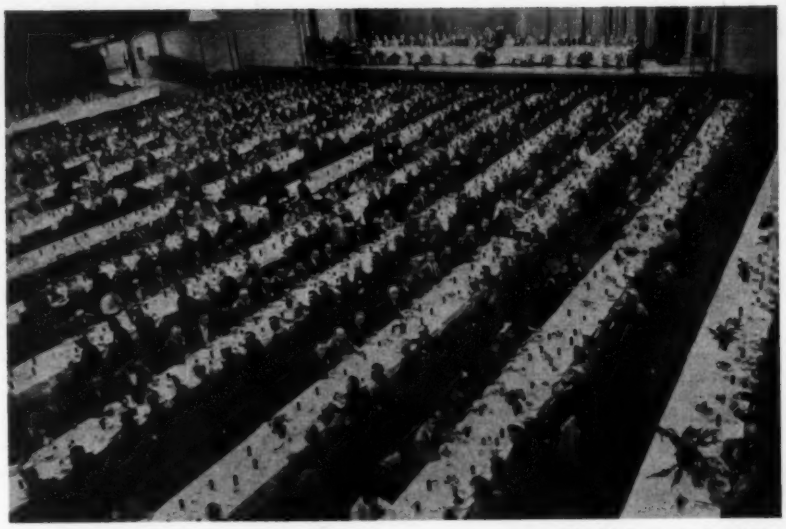
The topic "Industrial Disaster Planning," handled by J. Ward Bush, Plant Prot. Chief, Caterpillar Tractor Co., Peoria, Ill., brought to light the methods whereby the big plant mobilizes its entire emergency organization. Pre-planning will pay off, the speaker emphasized.

The methods of teaching water fog application in house fires were discussed by a panel led by R. J. Douglas, Professor, Fire Serv. Training, Oklahoma A. & M., which included John

Heavy duty fog discharged from ladder pipe, cools atmosphere over burning tenement building to prevent exposure fires in second of F.D.I.C. major fog demonstrations on February 24. Memphis rookie firemen show use of department's "Stream Master" appliance.

Photo courtesy J. Wendell Sether

Jay W. Stevens, whose spirited message, "Save Children's Lives from Fire," inspired delegates to the F.D.I.C., is presented a plaque, "For a Lifetime of Leadership in Fire Prevention," by Chief Charles N. Carroll of Santa Monica, Cal., in the name of the California Fire Chiefs Association.



Memphis Commercial Appeal Photo

Luncheons for the 1,786 hungry delegates and visitors daily during the F.D.I.C. were prepared and served by Memphis firemen (at no charge to visitors). Here's a partial view of the twelve, block-long tables, and head table in the huge auditorium, with ceremonies getting under way.

L. Bryan (Univ. of Maryland); Wallace F. Gannon (Muskegon, Mich.), Keith Royer (Iowa State) and C. R. Scott (Ohio Fire Marshal).

An outstanding address of the Conference was that of Huber Walker, Mgr., Motor Fire Apparatus Sales Engng. of American-LaFrance-Foamite Corp., Elmira, N. Y., on the subject of "In-Service Maintenance." His recommended program will decrease "out-of-service" hours, per year; reduce repair and replacement costs on fire equipment, he said. It means checking, adjusting and correcting such items as may be handled in fire stations and not to require taking a piece of apparatus out of service or affecting its ability to respond to an alarm. He illustrated his message and report forms with slides, and recommended maintenance courses be taught at fire schools and colleges.

Mark H. Brozier (Iowa State College) demonstrated emergency methods of rescuing people from charged wires. He was followed by Fire Chief Newton L. Wheeler, Miami, Fla., who related experiences of his department in adjusting training methods to the city's rapid population growth.

The day's luncheon speaker was Tennessee's former governor, Jim McCord —now State Comm. of Conservation who talked on "Cooperative Fire Fighting." He was introduced by John F. Lee, Mgr., Tenn. Insp. Bureau.

"Operation Fire Stop," described in some detail in the October, 1954 issue of FIRE ENGINEERING, was described by Jesse H. McLendon F.C.D.A. Region 7, Santa Rosa, Calif.

As a preface to the full scale "Master Stream" demonstrations of the Memphis Fire Department, Capt. Harry H. Wolff, Field Officer, Fire Prev. Dept. Western Actuarial Bur., using slides and a 20-minute color movie, explained the July, 1954, fog tests in Kansas City.

Heavy Duty Fog Demonstration Held

The Memphis tests, which involved the burning of several condemned houses, saw the 1500 and more delegates transported to the demonstration area, at Carolina and Kansas Sts. Delegates were given diagrams showing burning areas, power lines, railroads, locations of apparatus and hose lines. In the first tests, two frame residences were allowed to become fully ignited. The fires were then controlled in 40 seconds, using two 1½-in. lines with fog nozzles by 5-second bursts into windows and doors. Total application time 20 seconds-per-line; discharge 35 gals. each. These buildings were then allowed to become fully involved and the fire knocked down with a large fog pattern from an aerial ladder pipe. Again fires were allowed to build up and burn the structures completely, while two Stream Masters protected an adjoining two story frame apartment building at 10 ft. distance.

In the second demonstration, the latter structure was allowed to become fully involved and no attempt made to control the fire. Stream Masters were used to protect exposures, and the crowd from radiant heat. Then the heavy duty fog was directed on the fire to show the almost instant cooling and smothering effect.

The entire show was staged and directed by the Memphis Fire Department, nearly all participants being rookie firemen.

A Discussion Panel led off the final day, with Emmet Cox as leader and Messrs Klinck, Diamond, Kuhlman, Scott (Ohio), and Scott (Memphis) holding post mortems on the previous day's "spectacular."

Transportation Hazards Discussed

The topic: "The Fire Problems of Explosives Transportation" was forcefully presented by Fire Chief Eugene W. Fields, of Omaha, Neb., who sounded warnings against use of city streets by such transports. Reality was added by a tape recording of an explosion near Boy's Town, Neb.

Two short subjects were introduced by J. M. Donovan, Jr., Sec'y. Kentucky Fire Safety Comm., whose topic was "Teamwork in Fire Prevention" and by Miss Ella Frances Baker, of Owensboro, Ky., whose paper was captioned "How Foolish Can You Be."

Russell D. Salak, Secy.-Treas. Nebraska State Vol. Firemen's Assn., blueprinted the organizing, training and administering of a volunteer fire department. "Don't be afarid to try new ideas" he urged volunteers.

Morning sessions concluded with a paper by former Parkersburg Chief, Lloyd Layman, now Dir., Fire Office, Tech. Advisory Serv., F.C.D.A., entitled "Your Most Helping Hand." His theme appropriately was: the fire defense system of a *state* must be based on the firm foundation of efficient and adequate *local* defense. He recommended national programs of research and experimentation "to arm the fire service with new and revolutionary technique and equipment."

Friday's luncheon saw two veteran F.D.I.C. hands made honorary chiefs of the Memphis Fire Department. They were Joe I. Fetters and Prof. R. J. Douglas.

The concluding address was given by Horatio Bond, Chief Engr., N.F.P.A., on the problems and hazards of wartime fire fighting. He advocated use of light, fast apparatus, personnel protection against fallout, dust and smoke, and said "Fire fighting is for the professional, and not the amateur."

1956 Meeting Announced

Wilson Mount, of a local radio station gave the customary F.D.I.C. "Broadcast" and, with his friend Rudy Willing, staged a blackface act. Chairman Vernor and Vice Chairman Klinck imparted the final touches to the busy gathering, announcing that the 1956 Conference will be held in Memphis on Feb. 21-24. *"We have provided you* new tools" said Chairman Vernor—*"Now put them to work."*

The finale saw the jumbo "F.D.I.C. Follies," an all-star, one hour show, with Emmett Cox as Master of Ceremonies and Nels Swenson (Minneapolis F.D. basso) and the Department Quartette, sharing honors with popular Memphis singers and dancers.

MAYWOOD ADOPTS NOVEL SYSTEM TO SPEED APPARATUS RESPONSE

Traffic Lights Ahead Controlled By Radio Beam From Moving Apparatus

By D. S. Smith

Chief of Fire Department, Maywood, Ill.

THE Continental Communications, Inc., 452 W. Chicago Ave., Chicago 10, Illinois, have developed a radio transmitter and receiver unit which enables the emergency vehicle operators to control the traffic signal lights as it approaches them. This is accomplished by means of the transmission of a radio signal to an automatic receiver in the traffic signal control box which activates the signal lights and indicates a four-way stop, and which is intended to clear the intersection of all moving traffic.

The Village of Maywood, Ill., conducted tests with this unit, the "Con-Tec" radio emergency traffic control system, in December, 1954, and January, 1955; and on February 3, 1955, became the first municipality to authorize the installation of this new safety device.

A primary hazard of emergency vehicles on call through streets overcrowded with both parked and moving vehicles has been that of the necessity of running through red signals at some signal-light controlled intersections on virtually every call. Sirens, bells, and flashing lights do not always attract the attention of all motorists and, having a green light in their direction, many motorists proceed without regard for the oncoming emergency vehicle. The necessity of retarding speed at these intersections is a handicap for the fire, police and ambulance services.

It is the purpose of the "Con-Tec" radio emergency traffic control units to put into the hands of the operators of emergency vehicles a control over the traffic signals through which they must run.

The equipment is made up of a small radio transmitter installed in the emergency vehicle, and operated by a single switch; and radio receivers in each of the control boxes of the traffic signal system throughout the Village. As the emergency vehicle approaches the signal-light-controlled intersection, the switch is thrown in the emergency vehicle, automatically transmitting a message to the traffic signal control box and activating all signal lights to the "stop" sign. As a further measure to signal the traffic at the intersection that an emergency vehicle is approaching, the "caution" light is flashed for five seconds at the rate of five flashes per second. The system automatically holds the traffic signals at "stop" in all directions until the vehicle, or vehicles, signaling for the clear intersection have passed through and cleared that intersection by approximately 200 feet, at which time the traffic signals automatically return to their regular cycle of control. The frequencies used in transmitting the automatic radio messages to the receiver units in this system have been approved by the Federal Communications Commission

Another useful feature of the traffic control system is that the flashing "caution" light serves as a signal, in the event two emergency vehicles are approaching the same intersection, for them to approach with extreme caution to avoid collision.

In installing and putting into use this traffic control system in the Village of Maywood, we are not overlooking the fact that it is going to be necessary to conduct a thorough motorist education program to prevent misunderstanding and confusion in the use of this new system of controlling intersection traffic.

Traffic engineers and heads of departments operating emergency vehicles in the City of Chicago, Cook County, the State of Illinois, and more than fifty communities in the Chicago area observed the "Con-Tec" system in operation at the trials held in the Village of Maywood and have given general approval.

However, we do not feel that the installation of this equipment solves the whole problem of intersection safety for emergency vehicles. But we do feel that we are now equipped to begin an adequate program of safety education for the motorists which will assure maximum safety under emergency-run conditions. There is no doubt in our minds that this radio emergency traffic control system, together with a good public motorist educational program, affords a solution to this heretofore perplexing problem of public protection.

Maywood, Ill., aerial ladder used in test of traffic control system. Chief Dave Smith stands in front of unit.

San Diego's Worst Fire Loss in 18 Years

Fire Chief George Courser and 10 San Diego firemen narrowly escaped death, Jan. 4, when that city's worst fire in 18 years caused $1,000,000 damage to the Burnett Furniture Co.

The flames broke out, from an unknown cause, in rugs stored on the main floor of the warehouse at the rear of the huge store. Despite the location of a fire company across the street, the flames swept through the structure and necessitated the sounding of three alarms.

Chief Courser and the firemen scrambled off the roof of the building moments before flames burst through and shot 100 feet into the air. Thirteen firemen were overcome by smoke or burned during the 4½-hour battle before the fire was brought under control and the all-night overhauling operation started.

The store is located at 7th and University in the Hillcrest district of uptown San Diego. George Burnett, vice president and treasurer of the company, estimated loss at $1,000,000 to the building and contents, including almost the entire stock. Extensive water damage occurred in the display section at the front of the store. PAUL DITZEL

To Pick New Manager for I. A. F. C.

A screening committee has been set up by the Board of Directors of the International Association of Fire Chiefs to review applications for the position of General Manager of the Association.

Dr. John Gerletti, present Manager, has asked to be relieved of his duties so that he may return to the faculty of the University of Southern California, at Los Angeles, a position he held prior to taking over management of the Association.

The Directors were reluctant to lose the services of Dr. Gerletti, whose teaching experience in Fire Administration at the University particularly fitted him for his work with the Association.

But he was on leave from U. S. C., and had to make a decision on returning thereto or severing his connection entirely with the school before the 1955 fall term began.

Selective Calling of Equipment in L. A. County

Installation of selective calling equipment for the dispatch of apparatus has been completed in 12 fire stations by the Los Angeles County Fire Department.

The system is expected to save the department thousands of dollars annually in leased phone line costs.

"We have an unusual problem here in L. A. County," Asst. Chief Des Barton pointed out. "Our stations are spread out over a large area and installation of this selective calling equipment will enable us to dispatch units more rapidly and economically."

It is expected that additional installations will be made in other CFD stations next year. CLIFF DEKTAR

CHICAGO "SKID ROW" HOTEL FIRE RESULTS IN 29 CASUALTIES

Derelicts Die in 5-11 Chicago Fire Kindled by "Human Torch"

A FAST-SPREADING fire which roared through a dilapidated 40-year-old so-called "hotel" in Chicago's Skid Row, brought death to 29 men, most of them human derelicts, early on the morning of Feb. 12. Many more, including a number of fire fighters, were injured.

The three-hour blaze gutted the Barton Hotel at 644-48 W. Madison, owned by a woman and leased to the Gandy Hotel Co. which, in turn, sub-leased the property to two brothers, Benjamin Glassman and Max Glassman.

According to Chicago Building Department files, the place was divided into sleeping stalls for 336 persons. Forty-eight were on the second floor, 85 on the third, 117 on the fourth and 86 on the fifth. The ground floor was occupied by the Standard Store Fixture Company.

It is estimated that 245 men were asleep in the five-story building at the time of the fire. Their "rooms" were cubicles about 4 ft. wide 6 ft. long and 7 ft. high. The bunks were separated from each other by corrugated iron sheets, topped with meshed chicken wire. An aisle ran between each two rows of cubicles. The chicken wire top was to provide ventilation, and to keep the flophouse denizens from crawling into each other's cubicles.

According to press reports, the owner reportedly spent $60,000 to "fireproof" the building. It was used to put in fire-walls, enclose the stairway, etc. This was done after the Building Department notified the owner what was needed. City inspectors afterward gave the place a satisfactory report, the owner said.

Fire Prevention Bureau records reportedly show charges that the place lacked a fire alarm system. The two brothers who operate the place said they paid $10,075 for the installation of a fire alarm system in January. The fire alarm violation showed up in an inspection made April 23, 1954, according to press reports. In court, the case was delayed so the brothers could make the necessary installation. Press reports relate that at the time of the fire, night clerk C. W. Harvey "groped his way to an inside alarm, but got no response. He dialed the telephone operator who called firemen." No explanation as to the kind of inside alarm was referred to.

Anthony Dykes, 45, janitor of the hotel, said he was walking down a second-floor hall shortly before 2:00 A.M. when Joseph Armatyz, 70-year-old pensioner, burst from his room covered with liquid fire.

Dykes chased the man down the hall, the victim's fire-wracked body splattering flaming alcohol as he ran. Other roomers piled out of their cages and tried to assist, Dykes said, but suddenly the lights went out all over the hotel.

By the time night clerk Harvey had gotten the alarm through, the blaze had gained momentum and the hallways, lighted only by the feeding flames, were filled with screaming, panic-stricken elderly men.

Some of them found their way to the stairwell; others to fire escapes.

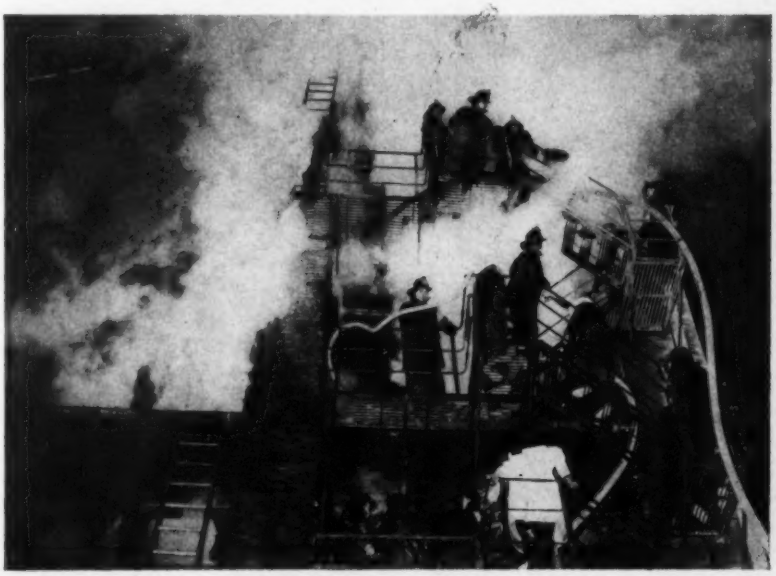
Armatyz, who soon died from his burns, was in the habit of rubbing himself with alcohol and it is believed ashes from his pipe or cigarette ignited the fumes.

Along with the charred bodies of those who failed to escape, firemen found scores of wine and whiskey bottles, mute characterization of the flophouse clientele. According to one paper "The Barton Hotel offered sleeping quarters for the destitute, broken down men who go to Skid Row to drink and be forgotten and to dream about what great persons they might have been."

Firemen, once they had the alarm, were quickly on the scene, to encounter near-pandemonium. The cries of the fire-crazed victims in the hallways, at the windows, and on the fire escapes tore the bitter cold night air. Bodies were coming down out of windows as those who made the openings were forced to drop or jump. At least one man jumped to his death from the third floor. The list of injured shows a heavy preponderance of fractures and sprains.

The fire fighters, coming in increasing force as multiple alarms were sounded, raced up the steps and led

Rear of the Barton Hotel in Chicago's Skid Row erupting flames. Note the outlines of the beds in the two windows at right. No fire escapes at this location of the 40-year-old structure.



Approximately three-fourths of Chicago's fire force, responding on 5-11 alarm, fought gruelling battle to confine fire in Barton Hotel and locate and rescue victims in the face of hopeless odds. Many fire fighters suffered minor injuries and exposure. Two were hospitalized.

many to safety. The front of the building was thoroughly laddered and, notwithstanding the hazardous climbing conditions in the sub-zero weather, firemen made every effort to penetrate to the interior of the upper floors where they knew most of the victims would be located. Smoke in heavy volume, and roaring flames in the rear, particularly soon drove them to break off search and fight the fire from the exterior. The stairs gave way early in the fire, followed not long after by parts of the floors.

As heavy streams from water towers, ladders and deck pipes tore into the building the fire escapes, and even firemen's equipment, took on coats of ice. Ladders buckled under the added weight and steam trucks were summoned to de-ice jammed apparatus, hydrants and equipment.

As soon as conditions made it possible, search for the victims was instituted. Most of those found were burned beyond recognition. Indeed it is doubtful if the majority will ever be identified. Those who managed to escape were sheltered by the Salvation Army, located next door, and taken to other hotels and service agencies.

According to Chief Fire Marshal John Haberkorn, the fire was the worst in Chicago since April 16, 1953, when 35 perished in the Haber Corp. fire. It was the third major fire in two days in the blighted near West side area in that city. On the day before, a 3-11 fire broke out in a warehouse at 711 Randolph and a 5-11 blaze the day before that razed a vacant building at 663 Washington.

The 29th body was recovered from the ruins on the 17th as firemen and others probed the wreckage. Following collapse of the top floors, the upper two stories of the building were razed by wreckers to safeguard searchers in the ruins.

Meanwhile the usual investigations are being made by the city's police, fire and building departments, state fire marshal's office, and State's Attorney.

100 Dead in 22 Months

In the last 22 months, according to press reports, there have been five fire disasters, previous to the Barton Hotel blaze, which have taken the lives of five or more persons. These five fires in which 71 died were:

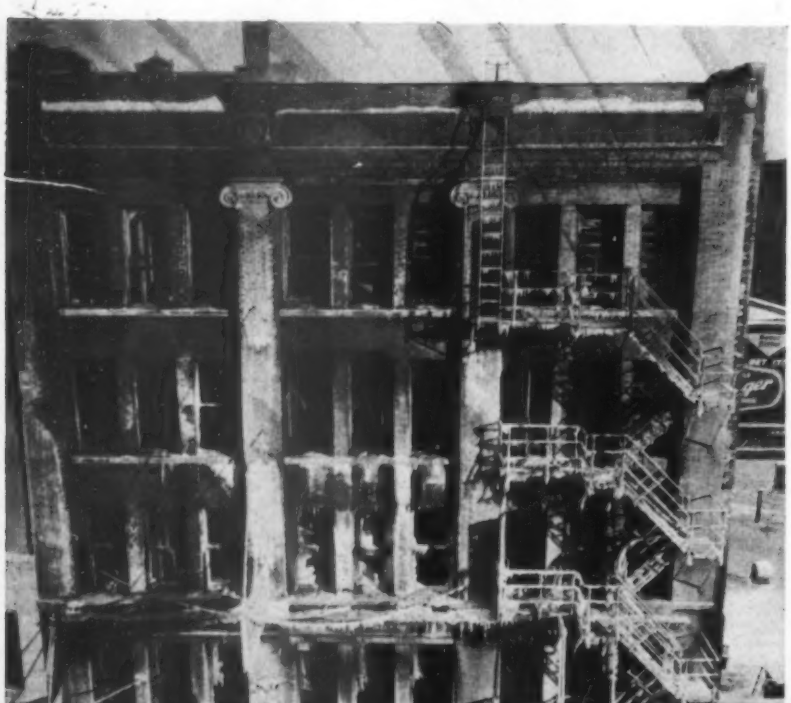
April 16, 1953—Haber Corp. fire, 908 W. North, 35 dead

Sept. 7, 1953—Tenement at 3616 W. State, 18 dead.

Dec. 1953—Reliance Hotel, 1702 W. Madison, 6 dead, including 5 firemen.

June 11, 1954—Tenement at 1704 W. Erie, 7 dead.

August 9, 1954—Tenement at 3101 Wentworth, 5 dead.



Ice-encrusted ruins of the Hotel Barton on West Madison street, Chicago, after most of the bodies had been removed. Upper floors were later razed and last bodies found, bringing total dead to 29. Note location of fire escape and obstructed windows off escape on upper floors.

Chicago's major disaster in recent years was the LaSalle Hotel blaze, June 5, 1946, in which 61 persons perished.

Lots of Ice But No Water

Total destruction by fire of a 100-year-old landmark on the morning of Feb. 4 last, was blamed on a construction blunder that left the hamlet of Grassy Point, N. Y. (pop. 200) totally without water.

Because of lack of water, the Schermerhorn Tavern burned down at 3:00 A.M. before volunteer firemen could lay out hose lines and get water from the icy Hudson River. Local officials protested that faulty installation of the water main, on which the community depends, had permitted the main to freeze solid in sub-zero weather.

Grassy Point consists of about 50 dwellings, three taverns, a general store, church and a bathing beach. It is connected with the larger community of Stony Point two miles away by a road that crosses a bridge over Minisceongo Creek. The water main in question used to run underground from the Stony Point pumping station. It never froze. When the old bridge was replaced last November, the water main was also replaced, and carried across the creek strapped to the underside of the new bridge.

Residents evidently failed to draw off enough water during the chilly night of the 3rd to keep the water running. When the fire, of undetermined origin, routed the owners of the Tavern from their two-and-one-half story building, volunteers from Haverstraw, West Haverstraw and Stony Point were called and responded promptly, despite the frigid weather. But they couldn't get water from the street hydrants, or even from house taps.

By the time they stretched hose out beyond the ice in the Hudson and started pumping (no minor job), the Schermerhorn Tavern was burned out, with a loss estimated at $30,000.

Baby Sitter Saves Three

The wisdom of always leaving youngsters properly attended was well demonstrated on Jan. 8, last, in Walla Walla, Wash. The heroine, 13-year-old Linda Hamilton, a Walla Walla High School student, carried three small children, aged 7, 4 and 2, to safety as flames enveloped the house of Mr. and Mrs. Myers, on E. Walnut Street.

Firemen, who battled the blaze for an hour, heaped praise on Miss Hamilton for keeping her head in the emergency.

When smoke erupted from the heating registers about 9:00 P.M., the baby sitter took the three children from the house to a neighbor's and then called firemen. Mr. and Mrs. Myers were not at home when the fire started and Miss Hamilton and two of the children were watching television when the blaze was discovered. The youngest child, aged 2, was awakened by the smoke a few minutes before the others noticed it.

Fire Chief Leonard Adams said the blaze started in the basement, probably from the furnace. The basement was gutted but only small damage was done to the rest of the 6-room, frame house by smoke and water.

Thanks FRANK A. MADDUX.

Historic 125-Year-Old Hotel Burns

The Landmark Tavern at Brockport, N. Y., historic tavern dating back to Erie Canal days, burned early on Jan. 24th, 1955, with loss estimated at $75,000.

The three-story brick building, with doors opening on what was then the Erie, but is now the N. Y. State Barge Canal, was originally the American Hotel. Later it was called the Brockport Hotel, Germaine's Hall, the Music Hall and other names. More recently it was the rendezvous of student-teachers. It had not been used as an inn for some years.

According to Brockport Fire Chief Charles Truelson and Rochester Deputy Fire Chief Ambrose Foos, who sparkplugs Monroe County's mutual aid setup, the fire started in the bar. It was discovered in the upperfloors by a patrolman and sheriff's deputy at 4:00 A.M.

Fire companies from Brockport, Spencerport, Hamlin and Holley fought the blaze with over 200 men and 14 pieces of equipment but the old structure was past saving. A one-story cinder block addition to the bar was saved.

Sparks carried over the Barge Canal ignited roofs of three dwellings but these fires were quickly extinguished by volunteers, with only trifling damage.

Thanks PERRY O. POPP

Monterey Park Bars Integration

Monterey Park, Calif., City Council has given final passage to a new personnel law banning integration of the fire and police departments.

The Council also approved a resolution which would restore the separate positions of Police and Fire Chief at the end of this year.

John Cordell, retired Los Angeles Fire Department battalion chief, at present holds both jobs as Director of Public Safety.

The law, which will go into effect in 30 days, ended a move by the City Manager to explore the possibilities of combining firemen and policemen into a single department with common duties.

Both fire and policemen in the small community east of Los Angeles had been opposed to the move.

—CLIFF DEKTAR

Fire Safety Suggestions For Baby Sitters (and Parents)

Of the 12,000 persons who lose their lines annually in this country and Canada, it is said fully 4,000 are children. Half that number, reports indicate, are in the age group of 5 years old or less—the period when they are powerless to help themselves in the event of fire.

Children of this age, and all youngsters who are unable to think and act for themselves, should never be left unattended. But before entrusting their children to baby sitters, parents should know something about those to whom they entrust their offspring, and also they, as well as the sitters, should be familiar with the more important fire safety considerations.

Parents should know the sitter, his or her family training and background. Only those sitters should be employed who have a sense of responsibility and who like children, and who preferably live in the neighborhood. It is advisable to have the same sitter regularly, if possible, and to leave the sitter instructions in writing, as well as orally.

Here is fundamental information sitters should obtain from the parents:

1. The house number and street name.
2. Location of the house telephone.
3. Location of all exits from the house (including openings onto porches and/or extensions) from which rescues could be made.
4. Emergency telephone numbers: FIRE.... POLICE.... MEDICAL...
5. Nearest fire alarm box location.
6. How to shut off the heating units: (a) furnace, by thermostat; (b) space heater, by carburetor control; (c) Electric or other heaters.
7. Is there a flashlight available to sitter—in good working condition?
8. Destination of parents . . . Telephone number or other information on how they can be reached . . . Name of responsible persons to call in an emergency.

Here are recommended things for the baby sitter to do in the event of fire:

1. *Remember*—your first responsibility is the safety of the *children*. Get them to safety.

2. Call the fire department. (a) A fire alarm box may be used but do not leave the children alone. Get them out of the house, or in a safe location *before calling*. If more convenient, use the household telephone or that of a neighbor.

3. If you smell smoke but see no fire, call the fire department. In such cases it may not be necessary to get the children out, but be prepared—have an exit in mind.

4. In the event of cold or inclement weather, there may be a question of proper dress for your charges. It may be a serious mistake to pause to dress the children—the delay may be fatal. It is much better to grab a blanket or something else, to wrap them in.

5. When you turn in an alarm: If from street box, remain to direct firemen to the location of the fire (after making sure your charges are evacuated). If via telephone, be at the front door to notify the firemen. Put the porch light on.

IF THERE IS AN ODOR OF GAS PRESENT: Remove the children to safety. Notify the fire department. Do not turn on or off any switches, as these may create a spark that could ignite the gas vapors present and cause an explosion.

The information in this message has been taken from the National Board of Fire Underwriters, "Facts & Trends," Feb., 1955, and The Bulletin entitled "Fire Safety for Baby Sitters" of the Trenton, Mich., Fire Department, H. G. Pratt, Jr., Fire Inspector.

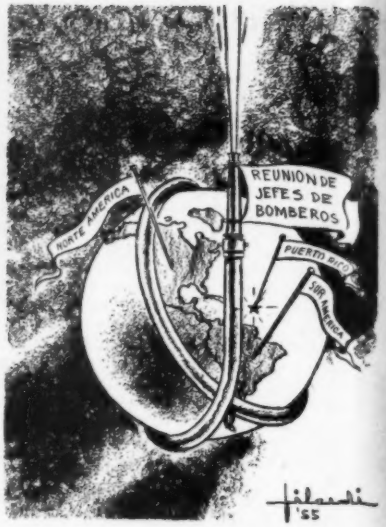
Suicide prevented by novel use of aerial.
A VA patient, who attempted to jump from a sixth-floor hospital window at Ann Arbor, Mich., was frustrated by fast-moving firemen who pinned him to the wall with an aerial ladder until hospital attendants were able to drag him back inside.

The Airport Brigade of the Fire Service of Puerto Rico put on a crash and rescue drill for the guests on January 10. Twelve hundred gallons of oil and gasoline were burned. Visitors watched the drill from a platform 100 feet away. Chief Gandara, the host, is shown in right foreground

On the night of January 11, the Lady-Mayor of San Juan, the Honorable Felisa Rincon de Gautier, offered a reception for the guests attending the meeting

All guests attending the meeting were entertained at La Fortaleza by the Honorable Governor of Puerto Rico Luis Munoz Marin and Mrs. Marin on January 12

Major Guillermo Marti, Fire Chief of the San Jose, Costa Rica, Fire Department addresses the group



The leading newspaper of Puerto Rico carried the above cartoon during the Inter-America Conference of Fire Chiefs. The legend (translated) reads "Reunion of Fire Chiefs, Puerto Rico, South America, North America."

I.A.F.C. Officers Visit Puerto Rico

Following the annual meeting of the Board of Directors of the International Association of Fire Chiefs, held in New York City on January 6-8, 1955, a number of them took off for Puerto Rico as guests of Chief Raul Gandara, head of the Insular Fire Service of that Island.

At San Juan the chiefs from America joined those from Latin America in a conference staged by Chief Gandara. A number of papers were presented, and discussion carried out on timely problems affecting fire protection of the Western Hemisphere.

Interspersed with the business session were social events such as a reception staged by Lady-Mayor of San Juan, Honorable Felisa Rincón de Gautier, a reception at La Fortaleza, the Governor's mansion, as guests of Governor Luis Munos Marin and Mrs. Marin, a picnic at the famed Loquillo Beach and several sightseeing trips.

Among those participating in the conference were:

Chief C. Gray Burnett, President, I. A. F. C., Ottawa, Ont.

Chief William Fitzgerald, First Vice-President, I. A. F. C., Seattle, Wash.

Chief Wayne E. Swanson, Second Vice- President, I. A. F. C., Rockford, Ill.

Chief Daniel B. Tiernery, Secretary-Treasurer, I. A. F. C., Arlington, Mass.

W. J. Scott, Fire Marshal, Province of Ontario, Toronto.

Chief L. Ellis Wagner, Director, I. A. F. C., York, Pa.

Chief Henry Chase, Director, I.A.F.C., Miami, Fla.

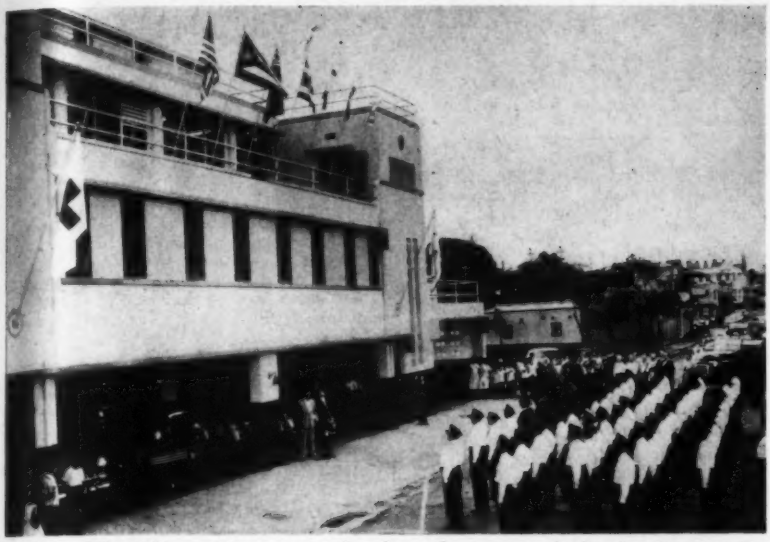
Chief Reynold C. Malmquist, Director, I. A. F. C., Minneapolis, Minn.

George J. Richardson, Secretary-Treasurer, International Association of Fire Fighters, Washington, D. C.

Chief Alfred Drax, Port of Spain. Trinidad.

Chief Joseph Gaspar Staubles, Port of Spain, Trinidad.

Chief Omar Brown, St. Thomas, Virgin Islands.



The flags of the eight countries represented at the conference were displayed on San Juan Fire Headquarters while the organ played the national anthems of these countries. Delegates are lined up in the rear.

Major Guillermo Marti, Fire Chief, San Jose, Costa Rica.

Chief Oran L. Hacket, Ramey Air Base, Puerto Rico.

Chief Emil Sortenos, Roosevelt Roads, Puerto Rico.

Chester L. Erret, Fire Marshal, U. S. Navy, San Juan, Puerto Rico.

Chief Jose A. Fernandez, U. S. Navy Air Base, San Juan, Puerto Rico.

Captain Teofilo Conrado Ramos, Fire Department, Montevideo, Uruguay.

Julio Orozco Cuadra, Fire Department, Managua, Nicaragua.

Rogelio Chacon Rodriguez, Secretary, Fire Department, San Jose, Costa Rica.

Chief Raul Gandara, Fire Service of Puerto Rico, San Juan, Puerto Rico.

Captain Enrique Ruiz, Fire Marshal, P. R. National Guard, San Juan, Puerto Rico.

Assistant Chief Pedro Oscar Schuck, Fire Service of Puerto Rico, Santurce.

District Chiefs Manuel Bernardo, Juan Barnes Yordan, Hermonio Diaz Curbello, Jose R. Adorno, Juan E. Anglade, Candido Correa Marrero, Israel Roldan Blas, Juan Morales Donis, Rafael Nadal Grau, Ulises Velazquez, Fire Service of Puerto Rico.

Jose Rivera Rodriguez, Chief, Inspection Bureau, Fire Service of Puerto Rico.

Inspectors Melquiades Sosa, Vicente Colon, Francisco Rivera, Jose J. Larrauri, Leocadio Morales, Fire Service of Puerto Rico.

Severiano Liceaga, Volunteer Fire Chief, Barrio Obrero, Puerto Rico.

Manuel Hoffman, Chief Fire Boat, Fire Service of Puerto Rico.

Norman Durphley, Manager, Puerto Rico Rating Bureau, San Juan.

Mariano Ramirez, General Counsel, Puerto Rico Development Co., San Juan.

Fred Fischl, Vice-President, Bi-Lateral Fire Hose Co., Chicago, Ill.

Fred Medin, Mack Motors Corp., San Juan, Puerto Rico.

Clifford L. Hannay, Hannay Hose Reels, Westerlo, N. Y.

Arthur Shramp, Hannay Hose Reels, New York, N. Y.

Pre-Planning Pays Off at Dallas Hotel Fire

Smooth operation of a pre-arranged evacuation plan by Aolphus Hotel employees in Dallas, Tex., is credited with averting deaths and serious injuries at a smoky four-alarm blaze that damaged a small area of the 26-floor 1,250-room hotel.

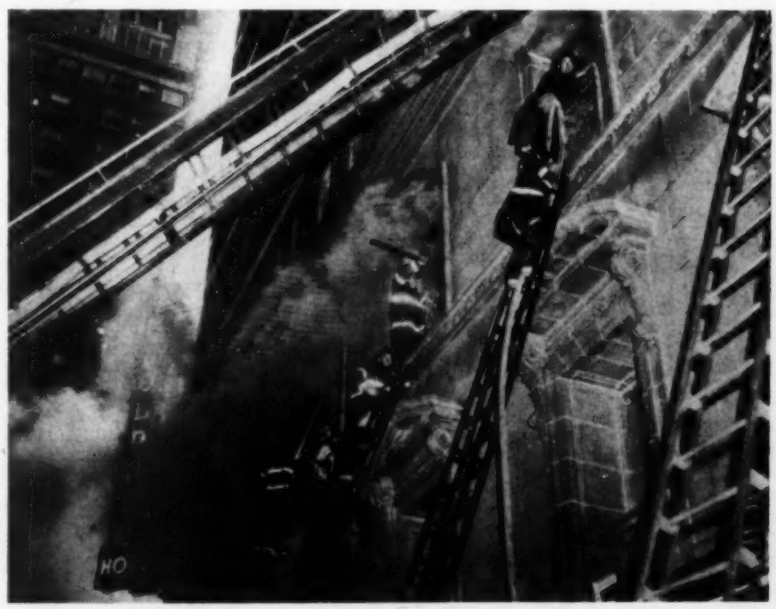
The fire, origin not as yet determined, broke out in the luxuriously furnished Insurance Club on a lower floor of the building. It was discovered by Miss Dorothy Smith, manager when "flames began to come out of the wall." She summoned the manager of the hotel, and the house detective to the club and the three first tried to extinguish the flames with portable extinguishers. Failing in this "after a few minutes," they were driven out by smoke and fumes and the fire department was called. The club manager said the flames seemed to originate in a cooling unit where quantities of soda water were stored. Liquor stored in a room behind the bar of the Club on the hotel's sixth floor was involved early in the blaze.

The first alarm was turned in at 5:06 P.M. and successive alarms followed at 5:13 P.M., 5:24 P.M., and 6:10 P.M. The evacuation of the approximately 500 guests and visitors in the hotel at the time began after the third alarm. Over half of the 1400 persons registered in the hotel when the alarm was given were out of the building, among them 800 boys and girls in Dallas for the All-State Musical Convention.

Working smoothly and without alarm, the big hotel staff went into action when the manager gave the signal. Telephone operators called every room and reported the fire. They assured guests that flames were confined to the clubrooms and restaurants. Meanwhile, porters and bellboys, working downward from the 26th floor, stopping at every room to escort guests down the stairs, made certain no guests or visitors were left behind. Guests were urged to use the stairs in order not to clog the elevators.

One visitor was found ill in a ninth-floor room and removed, and given oxygen. Another woman guest, who was under treatment for an influenza infection, was carried from her room and sent to Parkland Hospital. Only a few of the occupants were affected by the smoke and there was no panic. A 21-year-old elevator operator, who stuck to her post throughout the excitement, fainted when all the guests and visitors were evacuated.

Firemen who promptly arrived found difficulty getting at the seat of the flames. Lines were taken into the building and the hotel's own fire system was put into operation. Firemen also attempted to force entry from ladders on



Fire fighters work from ladders to enter involved floors at Adolphus Hotel fire in Dallas

the exterior. A number of them suffered smoke poisoning in this attempt, six requiring hospital treatment.

After firemen got to work, and while officials of the hotel were in the French Room, an explosion, believed caused by back draft, shattered wall panel mirrors.

Firemen were handicapped by the smoke carried throughout the building by the hotel's air conditioning system, which took fumes into practically every room in the building. Smoke billowed from the top of the hotel at one time in such thick clouds that it appeared the entire building was engulfed by fire.

Fire Chief C. N. Penn, who took charge, brought into operation 13 engine companies, 3 ladder companies, a salvage company and the emergency corps.

Every fireman on duty in the 16 downtown fire stations was called into action by Chief Penn. Crews from outlying stations moved in to cover the downtown houses and a "general alarm" for off-shift members brought in about 200, who reported to a command post set up in front of the hotel, from which they were dispatched to relieve men working on the fire, or to fill in at outlying stations.

The fire presented an opportunity for extensive salvage work. No sooner had the two-hour battle been won by fire fighters than emergency crews moved in to begin renovating the Insurance Club, the private King's Club on the lobby floor, and the French Room restaurant on the same floor. These were the only areas to receive serious damage — which hotel and other officials placed at approximately $75,000.

In the effort to reduce smoke damage following the fire, workers wielded special vaporizers containing smoke-odor neutralizers. Fire fighters received much praise for confining the fire and holding property damage down to a minimum.

New Orleans Department Tests Mile-Long Relay

Chief Howard L. Dey, of the New Orleans, La., Fire Department, recently conducted a water relay demonstration which was highly successful in proving that good water streams could be obtained in the central part of the business section using the Mississippi river as the source of supply.

The demonstration was set up to relay water to a supposed fire at Canal and Rampart at which the department was unable to use city water because of a supposed break in a water main.

Chief Dey said the practice also proved that the department's communication system was in perfect order inasmuch as no flaws were found in the constant communication between the various fire companies on the three-way radio system.

One engine was stationed at the river at the foot of Canal Street, which relayed water from the river to a second engine at Canal and Camp. The second engine relayed the water to a third engine on Canal near Bourbon which furnished two lines to turret pipes.

The stream from the 1⅛-inch nozzle carried a distance of more than 100 feet with a discharge of 434 gpm.

Approximately 35 firemen participated in the drill, including Chief Dey, Assistant Chief Patrick T. Burke and District Chiefs Gerald Sumners, Arthur J. Heyd, William Landwehr and Charles Pecoul (in charge of training).

A large number of off-duty firemen were on hand voluntarily to observe the drill, which was carried on in about 35-degree weather.

The Louisville and Nashville, Southern Pacific and New Orleans Public Belt railroads cooperated by holding up freight train movements across Canal Street, for about an hour. Also, the Dock Board had a fire tug on hand in the event it was needed. The New Orleans Public Service, Inc., rerouted one of its buses so as not to interfere with the drill.

College Garage Razed

A large garage and maintenance building at Mt. San Antonio Junior College near Pomona east of Los Angeles was destroyed by fire on the night of January 16.

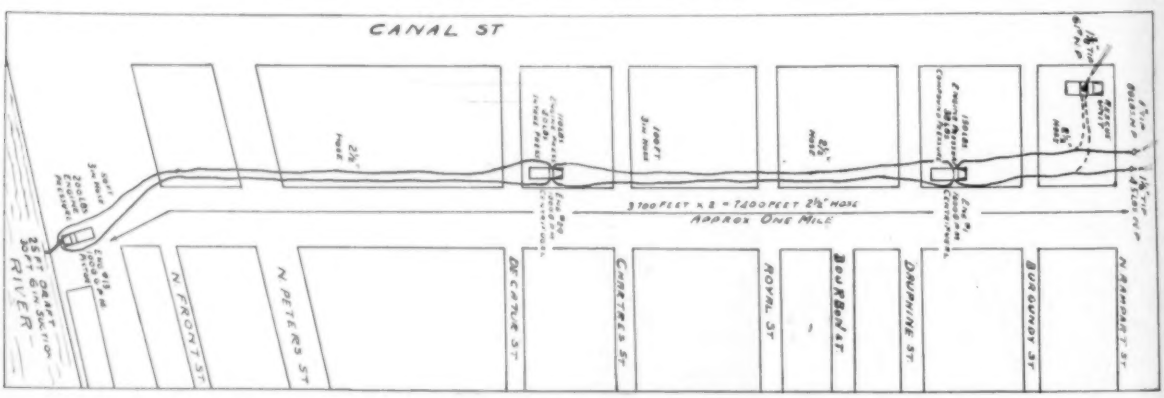
Damage was estimated by College President George H. Bell at more than $100,000.

Six companies of the Los Angeles County Fire Department fought the blaze for 45 minutes before bringing it under control.

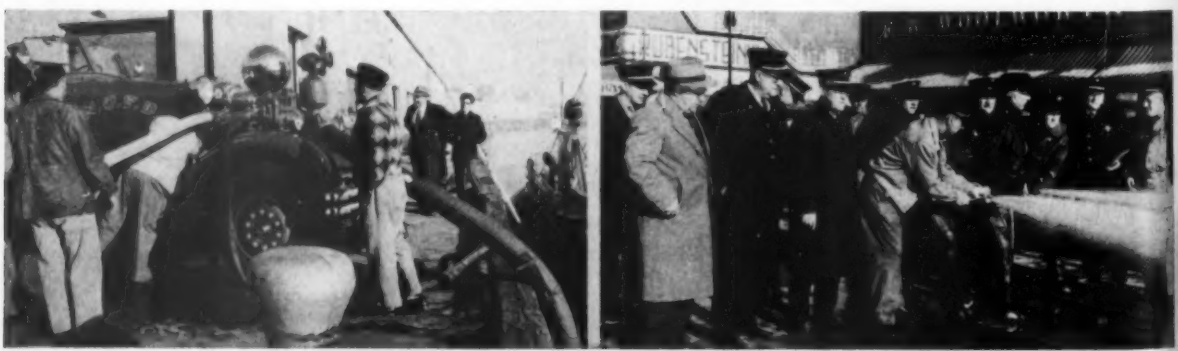
Battalion Chief Frank Fosdick said the fire apparently started in an electrical shop in the 125x200-foot building.

In the garage and also destroyed were a bus, a dump truck, a number of aircraft engines, and thousands of dollars worth of tools.

CLIFF DEKTAR



New Orleans Fire Department pumper relay, January 30, 1955.



Left: One thousand gpm piston pump lifts water 25 feet through 6-inch suction at the start of the relay. Right: Checking discharge from nozzles on relay layout. Front row from left: Chief M. Bieret of Jefferson Parish; Chief Howard L. Dey; Assistant Chief Patrick T. Burke.

Double Shut-Off!

Easy to Turn Under Pressure!

AKR-O-JET®

FOG NOZZLE

PERFORMANCE DATA							
		60° Fog		30° Fog		Straight Stream	
STYLE	P.S.I.	G.P.M.	Reach	G.P.M.	Reach	G.P.M.	Reach
1201 1"	125	32	13 ft.	28	23 ft.	24	75 ft.
1212 1½"	100	110	18 ft.	90	30 ft.	75	100 ft.
1221 2½"	90	175	28 ft.	170	40 ft.	143	130 ft.

FEATURES

- **DOUBLE SHUT-OFF** Opens from shut-off directly into fog or straight stream. Reduce water damage by opening nozzle directly to fog.
- **EASE OF OPERATION** All degrees of fog, straight stream, or shut-off are instantly available. Akr-O-Jet Design makes adjustment easy at all pressures.
- **SOLID FOG CONE** Teeth chew water into solid fog cone.
- **DURABLE** Tough, rugged construction provides years of trouble-free service.
- **POSITIVE GRIP** Rib-grip for sure-grip.
- **SMALL STREAM** For washdown.

3/4"—1", 1-1/2" and 2-1/2" sizes

AKRON BRASS

FIRE FIGHTING EQUIPMENT

AKRON BRASS MFG. COMPANY, INC.

Wooster, Ohio

News of the Manufacturers

Philadelphia Installs Maxim-Magirus 100-Foot Aerial

Like a number of other large cities, Philadelphia has its high value downtown district; but what distinguishes this hazardous business area from most others is the difficulty in getting fire fighting equipment to the fire, what with the narrow, traffic-jammed streets and the solidly built up areas of old and tall combustible buildings.

The practical problem of fire force response resolved itself into three basic elements:

1. Tall ladders for rescue and water tower operations.
2. Maneuverability to negotiate narrow streets and main arteries with high traffic density.
3. Vehicular design which incorporated items 1 and 2 plus reasonable space for personnel, ground ladders and equipment.

Last year, as a result of these requirements, the city placed an order for a Maxim-Magirus 100-foot aerial. This unit has been in service for some months. It is stationed in the firehouse at 16th and Parrish streets, in a district of narrow streets in which it is difficult to operate conventional aerial ladder equipment.

The new vehicle provides an aerial ladder of 100 feet elevated length in a total of 31½ feet overall length.

Because this is the first such ladder to be placed in service in this country for several decades, fire departments may be interested in its more important details.

The unit incorporates basic German Magirus patented features with refinements to bring it into line with needs and wishes of this nation's fire fighters. It has fully automatic devices to prevent over-extension at low elevations: automatic plumbing device to correct for road crown or grade; automatic stopping devices in event the ladder hits an obstruction while being raised, lowered or extended; a strain gauge to indicate the approach to ladder overload; full automatic locks; automatic ladder bedding lock to prevent movement of ladder sections in transit; automatic rotation stop, operable in both right and left directions; a ladder beam design giving a high section strength with minimum weight; engine starting and throttle control from operator's station; and, in addition, every operating function is duplicated by hand emergency operation.

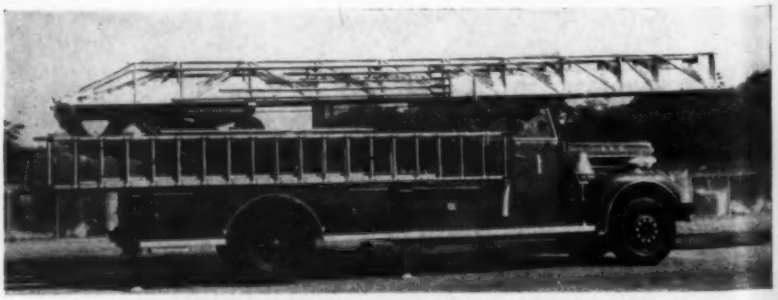
As will be noted in the illustrations, the chassis is especially designed for this type of ladder, which is mounted over the rear axle of the vehicle, in contrast to the conventional type ladder usually mounted directly behind the driver's compartment. The wheelbase of this apparatus is slightly larger than a conventional pumper. The vehicle engine drives the ladder, which is mechanically operated through a gear box located in the chassis drive line.

Stabilization is accomplished by the use of four mechanical jacks which can be released from a central point only after the spring lock-out device has been engaged. Engagement of this equipment must be made before the ladder itself can be operated. This is done by a cam device making it necessary to follow a given routine before power can be applied to the ladder mechanism.

The apparatus is equipped with a complement of ground ladders both extension and straight types, as well as a complete assortment of fire fighting and forcible entry tools, ceiling hooks, life net, lights and other essential equipment.

Two additional Maxim-Magirus units have been ordered and two Maxim 85 foot tractor-drawn ladders will shortly be added to the Philadelphia Fire Department.

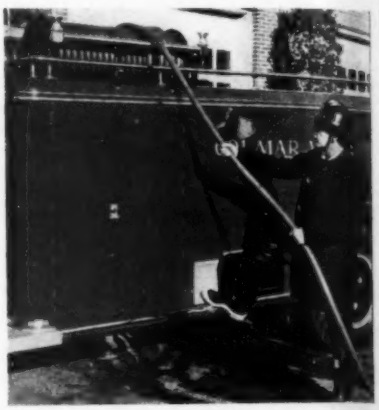
Demonstrating Maxim-Magirus ladder at Philadelphia



Maxim-Magirus aerial ladder recently delivered in Philadelphia

New Roller-Spool Assembly Facilitates Hose Handling

Fire hose rolls smoothly, freely over the new chrome roller and spool assembly designed and built by Clifford B. Hannay & Son, Inc., Westerlo, New York. The assembly is easy to mount on the reel, side rails, or other parts of fire equipment, and it speeds unwinding or rewinding of hose.



New roller and spool assembly aid smooth, free payout and rewinding of hose on the reel.

The roller is two inches in diameter; of triple chrome plated steel; spins on bronze bearings, and eases hose on and off the reel without sharp bending. Polished aluminum alloy spools and blocks at both ends of the assembly prevent hose from rolling over the edge of the reel and guide uniform rewinding.

The new roller and spool assembly can be added to present equipment or ordered with new, and is available for any size reel.

New Extinguisher for Low Temperature Use

A fire extinguisher that functions effectively at temperatures of 65 degrees below zero Fahrenheit, has been developed by Ansul Chemical Company, of Marinette, Wis. producer of dry chemical fire equipment.

Originally designed to meet U. S. Air Force specifications for cold weather areas, the extinguisher has a special rubber hose that is said to be able to withstand the extreme cold without stiffening or cracking. Nitrogen, rather than carbon dioxide, is used to expel the dry chemical.

The new units are available in 4-pound

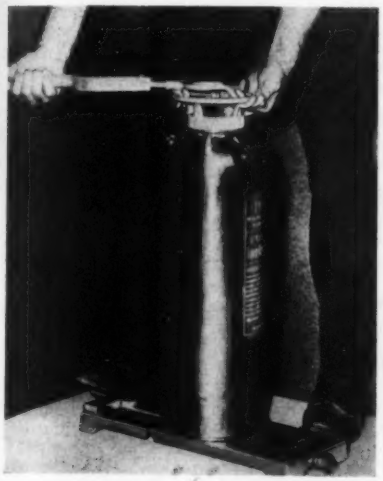
and 20-pound capacity for hand portables and 150-lb. and 350-lb. wheeled types.

For severe low temperature operation below minus 40 deg. F., the 150-lb. and 350-lb. wheeled units may be ordered with special low temperature rubber hose.

All low temperature extinguishers are painted blue to distinguish them from the regular extinguishers (red) used in temperate and tropical climates.

New Fire Extinguisher Tool

A new fire extinguisher servicing device for removing extinguisher heads safely and quickly, has been introduced by the Central Safety Equipment Company, 200 E. Huntingdon Street, Philadelphia 25, Penna.



New extinguisher servicing device

The product, named the Extinguisher Servicing Device, has been designed for those maintaining extinguishers. The device enables one man to remove an extinguisher head in seconds.

It consists of a stainless steel impact wrench and adjustable aluminum gripper base. To remove the "head," the extinguisher is placed on the gripper base and locked into position by a foot controlled "brake," adjustable for 1½ and 2½ gallon fire extinguishers. The impact wrench is then applied. Through a loose, swinging action in the handle, impact for jarring loose the head is achieved, without damage to the extinguisher or head-threads.

Portable Radio Has 3-Way Power Supply

Industrial Radio Corp. has announced its Model A Pak-Fone, which may be operated on its own self-contained batteries, from a 115 V., A.C. source, or from a 6 volt storage battery.

The unit is designed for use in fire and police departments, forestry services and other operations where radio telephone communications are required. It carries both F.C.C. and F.C.D.A. designations. It may be operated as a central control station when powered by 115 V., A.C., as a mobile unit when powered by an auto battery, or as a completely portable station using its self-contained batteries.

It consists of an 8 tube, crystal controlled FM transmitter which operates with either the 50 or 140 MC bands, a 15 tube dual conversion superheterodyne receiver, also crystal controlled, with a special relay circuit which automatically switches off the power consuming radio tubes when no incoming signal is present and a built-in loud speaker which reproduces FM voice signals.

Complete information may be obtained from Industrial Radio Corp., 428 N. Parkside Ave., Chicago 44, Ill.

New York Getting New Aerials

Twenty-five new aerial ladder trucks are now being delivered to New York City Fire Department by the Four Wheel Drive Auto Company, Clintonville, Wis. First of the new trucks arrived in New York in mid-February.

The new aerial trucks, tractor and semi-trailer combinations feature faster spring hoist aerial ladder action, new tractor and cab design, slightly-lowered tillerman's seat, and shorter overall length.

Carrying 44,000 to 46,000 pounds of force under normal fire fighting conditions, the truck's new spring hoist raises a 75-foot two-section extension ladder in 7 seconds. The ladder then can be extended manually to its full length within 19 seconds after its release.

The new aerial ladder truck is a tractor and semi-trailer combination 59 feet 7 inches long, the trailer 47 feet 7 inches and tractor 19 feet 11 inches. Tractor wheelbase is 14 feet 7 inches. Weight of the new aerial truck is 29,040 pounds, including 7,055 on front tractor axle, 12,820 on rear tractor axle, and 9,165 on trailer axle.

The tractor is equipped with four wheel drive to its two front tires and two double rear tires.

The tillerman's seat and steering wheel above the wheels provide control for the semi-trailer carrying the aerial ladder assembly and other equipment. There is no driving power to the trailer's wheels but there are synchronized full air brakes, controlled by the truck's driver, to all tractor and trailer wheels.

Powering the aerial truck is a six-cylinder, valve-in-head design engine which delivers 220 BHP at 2,000 RPM and 595 ft. lbs. torque at 1,000 RPM. The truck has Fuller 430 transmission and FWD's fully-compensating center differential.

The aerial truck carries 271 feet of wood ladders. Besides the 75-foot aerial extension ladder, which has fixed and sliding sections and is mounted on a 360-degree turntable, there are a 12-foot roof ladder, two 14-foot Pompier ladders, and seven ground ladders—two 35-foot, one 25-foot, one 20-foot, one 16-foot extension, one 15-foot, and one 10-foot.

Other equipment includes variety of hose nozzles, two Indian fire pumps, one 2½-gallon foamite fire extinguisher, one 2½-gallon soda and acid extinguisher, one 15-pound CO_2 extinguisher, one 1½ quart CTC extinguisher, generator unit, one 300 and two 500-watt floodlights, two gas masks, two red flasher signal lights.

There also are six 6-foot pike-poles, two 10-foot pike-poles, 15-foot pike-pole, 20-foot pike-pole, four 6-pound steel flathead axes, bar cutter, steel maul, two steel crowbars, door opener, claw tool, insulated wire cutter, rotary cutter unit with 12-ampere electric drill and extra blades, two square shovels, two pitchforks, and 150 feet of 2½-inch manila rope.

M.S.A. Introduces New Mask

A newly-designed mask which supplies oxygen or air as desired has been announced by Mine Safety Appliances Company, Pittsburgh, Pa.

The new product is available in two models, the "Air-Mask" and the "O_2-Mask". Either combines a supply of air or oxygen with a demand regulator to provide 30 minutes service in toxic or oxygen-deficient atmospheres.

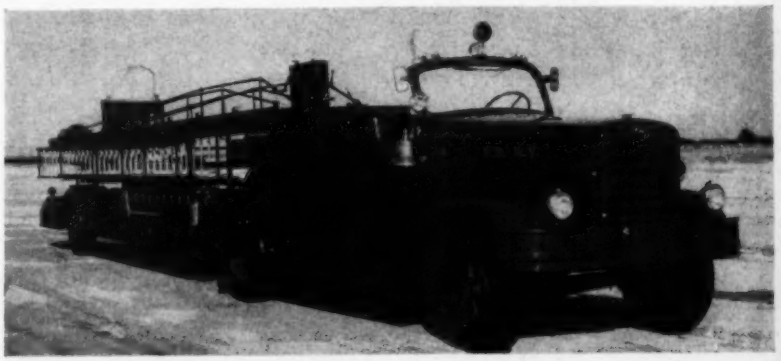
A backmounted cylinder, supported by a lightweight metal frame, is held by nylon harness to the wearer's body. The mask weighs 30 pounds. It can be put in operation in only a few moments. After donning the mask, the wearer opens the cylinder valve, adjusts the facepiece, and breathes normally.

Full details, photographs of a mask fitted on a wearer, are included in Bulletin Number 0105-5, which may be had from Mine Safety Appliances Company, 201 North Braddock Avenue, Pittsburgh 8, Pa.

Mack Trucks Elects T. J. Zeller V.P. of Operations

Theodore J. Zeller has been elected vice-president in charge of operations of Mack Trucks, Inc., it was announced by P. O. Peterson, president. Simultaneously, Mr. Zeller was elected a director in a Mack manufacturing subsidiary.

(*Continued on page 276*)



First of 25 aerial ladder trucks being delivered to the New York City Fire Department.

FALSE ALARMS

Intoxicated

"Officer, what makes you think this gentleman is intoxicated?"

"Well, judge, I didn't bother him when he staggered down the street, or when he fell flat on his face, but when he put a nickel in the mailbox, looked up at the clock on the tower, and said, 'My Gawd, I've lost fourteen pounds,' I brought him in."

When the little mink died and went to Heaven St. Peter told him, "We haven't had any minks up here before, so we don't know exactly what to do for you. However, you were a good little mink on earth and we want you to be happy, so we will give you anything you like.

"Please, St. Peter," pleaded the little mink, "—could I have a coat made out of chorus girls?"

Bright Young Applicant

When Irvin S. Cobb was a hardboiled newspaperman in New York many years ago, a young farmer from South Dakota came up to him one day and said, "My name is Jones; I'm from South Dakota and I want a job."

Cobb: "Listen, young man, do you know what we do with people named Jones from South Dakota?"

Jones: "No, but I know what we do with Cobbs in South Dakota."

Choice of Weapons

Girl: "Sometimes my father takes things apart to see why they don't go."

Boy: "So what?"

Girl: "So you'd better go."

One quiet evening at home a wife suggested to her husband: "Dear, why don't you read to me while I sew?"

The husband obviously didn't warm to the idea, stammered a bit, then said: "I tell you what—you sew to me while I read."

Child Expert: "If your child becomes unmanageable switch his attention."

Father: "Switch his what?"

"Would you repeat that address again?"

A Blasted Error

Oscar: What was that explosion on Homer's farm?"

Rufus: "He fed his chickens some 'Lay or Bust' feed and one of 'em was a rooster."

After six months of competing with two other guys for the heart and hand of the cute little blonde, the young man finally built up enough courage to take the last desperate plunge. Forcefully, but tenderly, he enfolded the girl of his dreams in his arms, mustered up his last vestige of courage and said: "Whisper those three little words that will make me walk on air."

Quickly, the little blonde responded: "Go hang yourself."

A telephone service girl received the following unusual request from a lady: "My telephone cord is too long, would you please pull it back at your end?"

Two ardent disciples of Izaak Walton went fishing. After a while one said to the other: "Had any luck?"

"No," was the reply. "I can't get the cork out."

A rather eccentric old man approached a painter who was hard at work painting the ceiling. The old fellow inquired, "Hey, mister, have you got a good hold on that brush?"

The painter replied, "I guess so—why?"

"Well, hang on tight," answered the old fellow, "I'm going to borrow the ladder."

Company Officer: "You are charged with using insulting language to your sergeant."

Private: "Sir, I was only answering a question."

"What question?"

"He said, 'What do you take me for?' and I told him."

April 15—the day when income becomes a collector's item.

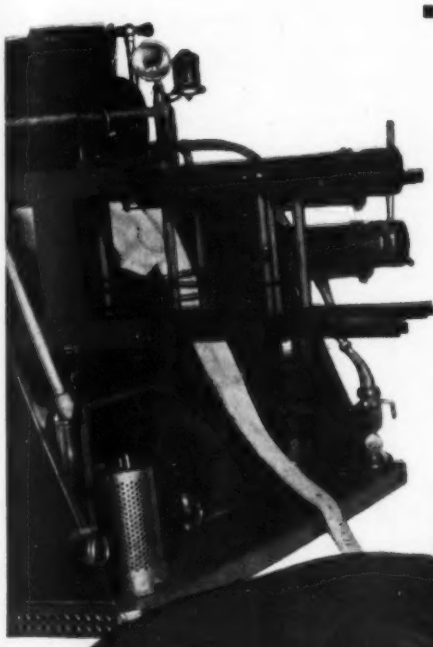
A man with six children is better satisfied than a man with six million dollars. The man with six million dollars wants more.

The dime isn't entirely worthless—it still makes a pretty good screwdriver.

The office manager was apparently coming down with influenza. His young and inexperienced wife attempted to take his temperature. In horror she read the thermometer, then made a frenzied rush for the telephone: "Doctor, doctor, please come at once. My husband's temperature is 136."

Calmly the doctor replied: "The case is beyond my skill, lady. I suggest you telephone for the fire engine, at once."

Up to 10 lbs. lighter per 50-ft. length ...with DACRON filler cords.



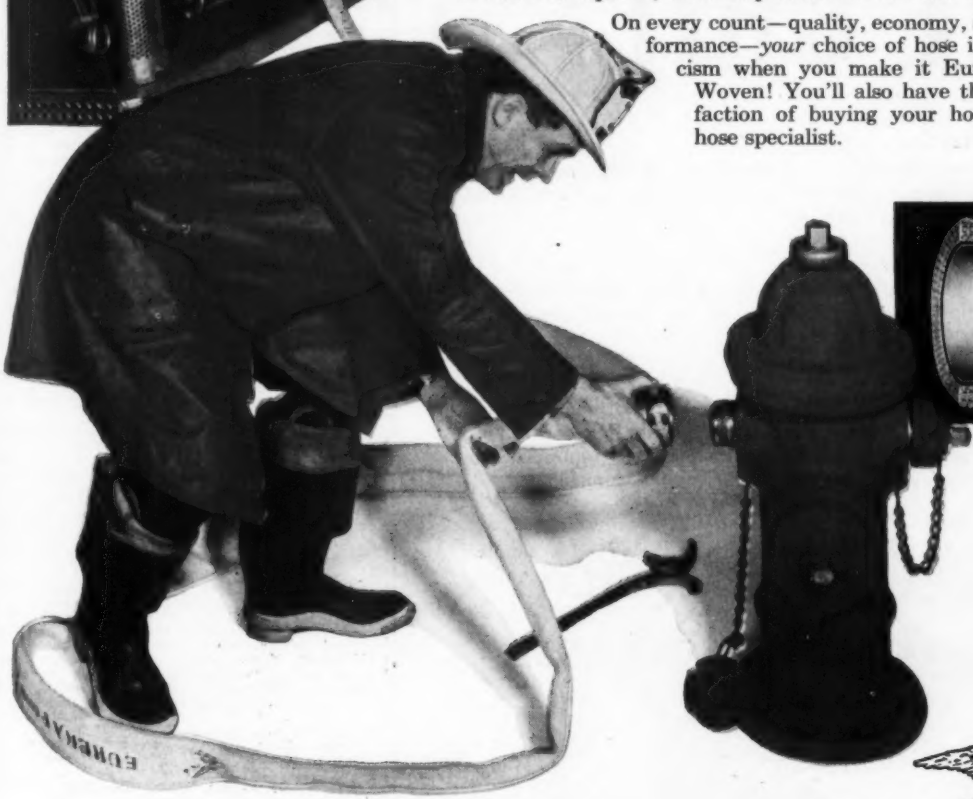
--EUREKA Multiple-Woven

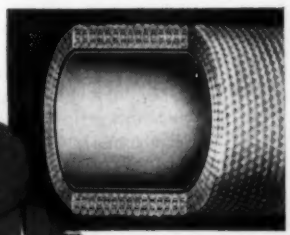
Hosemen appreciate the *lighter weight, greater strength* and *safety* of Eureka Multiple-Woven Hose when made with circular (filler) cords of Dacron*. They like, too, the ease with which it rolls into coils or bends back on itself . . . the speed with which it dries.

Those entrusted with the buying of fire equipment also favor Eureka Multiple-Woven. Experience has proved it least expensive in the long run, despite its premium quality and initial cost. Users report up to 25 years' useful service life from this unique hose that is woven on special, never-duplicated Eureka looms.

On every count—quality, economy, safety and performance—*your* choice of hose is beyond criticism when you make it Eureka Multiple-Woven! You'll also have the added satisfaction of buying your hose from a fire hose specialist.

*Du Pont's trade-mark for its polyester fiber.





All plies are woven *and interwoven* simultaneously. There's no space between plies for water and dirt.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

195 Hudson Street • New York 13, New York

Division of United States Rubber Company

What's Burning

THE following list includes fires of $10,000 and over in the United States and Canada for the month of February, 1955.

Month Ending February 28, 1955

Luverne, Ala.—Luverne Bank & Trust Co., St. Charles Hotel, Piggly Wiggly store, Layton's department store, Cotton's Cafe, Show's Fertilizer Co., Hagler's Barber Shop, Hamilton Grocery, Bonnie's Beauty Salon, law office and dentist's office, destroyed.

Phoenix, Ariz.—Twenty-four stalls at Arizona Downs Race Track, destroyed.

Anaheim, Cal.—Bowling alley and cafe building at 10867 Santa Ana Freeway, destroyed. Faulty electric wiring.

Culver, Cal.—Two buildings housing fabric coating firm of Western Backing & Coating Co., destroyed. Static electricity.

Los Angeles, Cal.—Wadco Furniture Manufacturing Co., Inc., destroyed.

Los Angeles, Cal. — Warehouse of Norwalk Grammer School destroyed.

Oakland, Cal.—Castlemount High School damaged.

Richmond Cal. — West Contra Costa County Laboratory damaged.

San Francisco, Cal. — Excelsior Brass and Aluminum Foundry, destroyed.

San Jose, Cal.—Guarantee Furniture Co. and Burbank Pharmacy, destroyed.

Vacaville, Cal.—Vaca Valle Orchards fruit processing plant, destroyed. Possibility of arson.

Brush, Colo.—Brushland Drug Co. destroyed.

Capulin, Colo. — Community Hall, 15 miles southwest, owned by St. Joseph Catholic Parish, destroyed.

Glenwood Springs, Colo.—Alsbury Sales Pavilion destroyed.

Montrose, Colo.—Warehouse of Montrose Potato Growers Co-operative Assn., destroyed.

Statesboro, Ga.—Farmers Tobacco Warehouse on U. S. 301, destroyed.

Priest River, Ida. — St. Catherine Catholic Church damaged. Electrical short.

Chicago, Ill.—Building occupied by Standard Store Fixtures; Barton Hotel; communicated to 654 Madison owned and operated by Salvation Army as mission house, damaged.

Joliet, Ill.—Two buildings of Prairie State Asphalt Products Co. in industrial area, destroyed.

La Salle, Ill.—Building occupied by Frank Croleski's boat shop, destroyed.

Rock Island, Ill.—Augustana College's science building, damaged. Chemical explosion.

Cambridge City, Ind.—Lincoln High School damaged.

Indianapolis, Ind.—Swift & Co. plant damaged.

Ligonier, Ind.—Crossroads Restaurant and service station operated by Bob Ergtcheson, at U. S. 33 and 6, south, destroyed.

Marengo, Ind.—Ferdinand Furniture Co. plant destroyed.

Muncie, Ind. — Schwartz Paper Co.'s storage warehouse, destroyed.

Des Moines, Ia.—Main assembly building of Mercury Coach Corp., destroyed.

Independence, Ia.—Independence High School destroyed.

Persia, Ia.—Building housing branch office of Harlan Produce Co. and American Legion Hall, destroyed; adjacent building housing Hughes Garage, damaged.

Atchison, Kans.—Building of Saunders Manufacturing Co., makers of floor mops, destroyed.

Wichita, Kans.—Rock Island Lumber Co. storage buildings, destroyed.

Lexington, Ky.—Barn of Col. Phil T. Chinn, adjoining Lexington Trotting Track, destroyed. Overloaded power circuit.

New Orleans, La.—Seatrain Lines, Inc., docks at Belle Chasse, damaged.

Bangor, Me.—Twelve head of cattle and three barns on farm of E. Braley, destroyed.

Bradford, Me.—General store of Herbert W. Tourtillote, destroyed.

Bryant Pond, Me.—Main plant of Stowell Silk Spool Co. destroyed.

Cornish, Me.—Ray Thompson's home and farm buildings, including two tractors, destroyed.

Eagle Lake, Me.—Potato shed of Silvio Dube destroyed.

Exeter, Me.—Large barn, machine shed and 10 head of cattle on property of Orrin Eaton, destroyed.

Fort Fairfield, Me.—Richards Block occupied by Frontier Motors, destroyed. Only one of 17 or 18 vehicles were saved from flames.

Lubec, Me.—Arthur Stuart Post, American Legion Home, destroyed. Adjacent fire station, damaged.

Old Town, Me.—Mack & Al Restaurant and apartment, damaged.

Rockland, Me.—Knights of Columbus hall destroyed.

Warren, Me.—Carl Erickson's Brooder house and 7,500 chicks, destroyed.

Westfield, Me.—Clair Allen farm buildings destroyed.

Cambridge, Mass.—Trucks and cargoes and truck terminal warehouse and transfer point, Nos. 13 to 167 Vassar Street, damaged.

Harvard, Mass.—Half-Way Auto Parts on U. S. 223, six miles west, destroyed.

Lowell, Mass.—Building at a lumber yard, destroyed.

Rockdale, Mass. — Rockdale Congregational Church damaged. Defective wiring.

Salem, Mass. — R-Way Linoleum Co., Frank Kielbassa's tailor shop, Jacob Nathan window shade firm, Cotton's Cafe, Audet's Package Store, Share's stationery store, Madore Jewelry Co., Lafayette Cafe, Landers Delicatessen, Johnny's Fruit Market, Eva's Hat Shop, Silver's Electrical Supply Co. and Delande's Electrical Supply Co., in business district, destroyed.

Saugus, Mass.—Odd Fellows Building, Clifton dale section, occupied by Saugus Cooperative Bank, New England Stores, real estate office of E. N. Reiser, office of Dr. Harold W. Bly, and Mildred Grasso Beauty Parlor, damaged.

Waltham, Mass.—Liquor warehouse and garage of R. L. Downing, Inc., damaged.

Bay City, Mich.—Plastic hull of an experimental 57-foot U. S. Navy minesweeper under construction at the main shed of Defoe Shipbuilding Co., destroyed.

Detroit, Mich.—Kroger Supermarket destroyed.

Detroit, Mich.—Detroit Gray Iron Foundry Co. damaged. Explosion.

East Grand Rapids, Mich.—Dwelling of Herbert C. Remien, destroyed.

Flint, Mich.—Building occupied by Buck's Floral Products, destroyed.

Ionia, Mich.—W. W. Mac Variety Store in business district, destroyed. Fire also destroyed dwelling of Richard Longdyke.

Owosso, Mich.—Main building of Owosso Manufacturing Co., of Ionia Mitchell-Bentley Corp., major suppliers of trim materials for the auto industry, destroyed.

Pontiac, Mich.—Modern dairy barn on Al Melburg farm, 11 miles northwest, destroyed. Electric heater.

Port Huron, Mich.—Automobile sales agency

WE WANT FIRE CHIEFS!

- **FIRE CHIEFS . . .**
  who have their community's interests deeply ingrained in their minds and hearts. Who live up to the pride and confidence their community has in them.
- **FIRE CHIEFS . . .**
  who take pride in the efficiency of their department—the modernization of its equipment and the trained use of this equipment.
- **FIRE CHIEFS . . .**
  who think FIRST of the safety of their men and the public they serve. Who by constant study and investigation can request the City Fathers to supply them with the latest equipment for better efficiency and greater safety for the community.
- **FIRE CHIEFS . . .**
  who will ask for a FREE demonstration of the effective, simplest to operate, inexpensive Stephenson Resuscitator which does more for the patient and in turn

SAVES MORE LIVES

Ask for booklet F-203

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Represented in Canada by **WILSON & COUSINS, Toronto**

and 38 automobiles, destroyed.
Brooklyn, Minn.—Swan-Douglas Manufacturing Co. building, destroyed. Company manufactured foam rubber cushions and duck decoys.
Minneapolis, Minn.—Pentel Motor Co. building damaged.
Minneapolis, Minn.—Linseed oil extraction plant at Cargill, Inc., destroyed.
Taunton, Minn.—Building housing restaurant and liquor store and adjacent warehouse, all owned by Forest Donaldson, in Lyon County, destroyed.
Winona, Minn.—Home Furniture Store destroyed.
Glendora, Miss.—Sonny's grocery, Greensburg clothing store, Williamson grocery and cafe, H. A. Trapp grocery and furniture store and Milam's grocery and service station, destroyed. Trash fire.
Terry, Miss.—The Spinning Wheel restaurant, destroyed.
Holland Mo.—Holland's elementary school for Negroes destroyed.
LeMay Mo.—Dohack's Barbecue Restaurant, destroyed.
Kansas City, Mo.—Two building occupied by Hughes-McDonald Dry Goods Store, Masonic Hall, Simrail clothing store and Marvin's women's clothing firm, destroyed. Explosion.
St. Joseph, Mo.—Blanar Brothers Commission Co. damaged.
Kalispell, Mont.—Hugh Hennessy's Restaurant, destroyed.
Reno, Nev.—Showplace home of E. R. Crummer, Reno financier, damaged.
Montclair, N. J.—Building housing an assortment of offices and Edgemont bowling alleys, damaged.
Passiac, N. J.—Building housing a delicatessen, a vacant store and Keen Made Manufacturing Co., destroyed.
Union, N. J.—Clubhouse of Suburban Golf Club damaged. Plumbers used a blowtorch to thaw out frozen water pipes.
Clinton Heights, N. Y.—Combination firehouse and community hall, used as headquarters of Bruen Hose Co., and as a civic center, destroyed. Building also housed four bowling alleys.
Fort Ann, N. Y.—First Baptist Church destroyed.
Fulton, N. Y.—Main mill of Velvet Tissue Products Co. destroyed.
Hornell, N. Y.—Old grandstand of Maple City Park, home of Hornell Dodgers Baseball Team, destroyed.
Ogdensburg N. Y.—J. F. Sharp Co. body and repair shop destroyed.
Oneonta, N. Y.—Don Pratt Motors Garage destroyed; adjacent Teitzell Hall, male dormitory building of Hartwick College, damaged.
Syracuse, N. Y.—Huge Alhambra housing seven business places including two restaurants and Henry Andrews supper club, destroyed.
Syracuse, N. Y.—Eastwood business building occupied by Frank's Pizza Shop, Penguin Frozen Foods Distributors, Eastwood Appliance Center, Eastwood Refrigerated Co., and Palace Lounge, damaged.
Tonawanda, N. Y.—Nine stores in shopping center, destroyed.
Utica, N. Y.—Annex building of Markson Furniture Store damaged.
Edenton, N. C.—Albemarle Peanut Co. damaged.
Havelock, N. C.—Eastern ten-cent store destroyed; Canipe Buck Co., also destroyed. Acetylene torch set off gas fumes.
Trinity, N. C.—Trinity Hall Furniture Co. destroyed.
Hazen, N. D.—Arthur Klaudt Garage destroyed.
Athens, Ohio—First Methodist Church near Ohio University campus, destroyed.
Cleveland, Ohio—Town & Country Shop in Cedar Center shopping center in Univerasity Heights, destroyed.
Cleveland, Ohio—Building and mill equipment of River Smelting Co., destroyed.
Middletown, Ohio—Bulding at east side plant of Armco Steel Corp., destroyed.
South Euclid, Ohio—Epstein Construction Co. warehouse destroyed. Explosion.
Toledo, Ohio—Pheasant Linen Supply Co. laundry destroyed.
Waterville, Ohio—Waterville Hardware & Supply Co. destroyed; Auto Accessory Store and apartment occupied by Donald Meeker, damaged.
Eugene, Ore.—McKenzie Lodge and contents destroyed.
Harrisburg, Ore.—Dan Curtis Airfield shops and three planes, destroyed.
Portland, Ore.—Glidden Paint Co. and contents, destroyed.
Altoona, Pa.—Crystal Hotel destroyed.
Carnegie, Pa.—Row of buildings on West Main street, including Mike & Tony Bar, Fort Pitt Casket Co., Fiori Real Estate, Schultze's Hardware Store, and apartments, damaged.
Finleyville, Pa.—Old Hayden Hotel destroyed.
Harrisburg, Pa.—Herbert Hoover Elementary School building, Susquehanna Township, damaged.
Harrisburg, Pa.—Store and office building at 113-117 North Second street, damaged.
McKeesport, Pa.—Six stores and a finance company office damaged.

City of Morris Fire Department. All 3 pumpers are WATEROUS equipped.

Dependable since 1886... *So what?*

● For 68 years, WATEROUS has built a reputation for *dependability* . . . dependable products and dependable service support. Here's what WATEROUS dependability means to the 4000 citizens of Morris, Minnesota . . . and what it can mean to *you* as a prospective purchaser of fire apparatus.

Back in 1929,. Morris bought a WATEROUS fire truck. Eight years later it added a second truck . . . again with a WATEROUS pump.

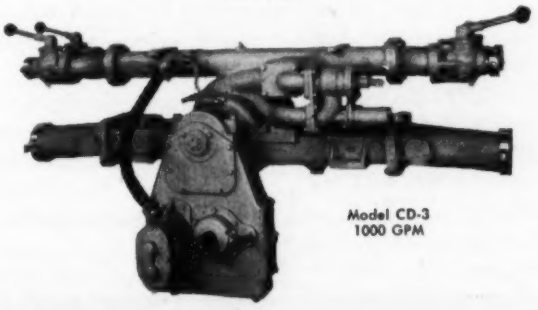
"During all these 25 years we've never had a bit of pump trouble," says Chief Jack Meyers. "You can understand, then, that we were pleased to accept delivery of our new 1000 GPM WATEROUS-equipped pumper."

After delivery of the new truck, Morris decided to send the original 25 year old pumper in for a check-up and overhaul with factory replacement parts, which were readily available. Shown at the right in the above photo, this veteran truck is now back on the job . . . *still meeting Underwriters requirements* and ready for many more years of service.

The experience of Morris is typical, for many even older WATEROUS pumps are still on the job, giving their communities efficient, dependable service.

If your Department is in the market for new pumping equipment, investigate the WATEROUS line. For details, write WATEROUS Company, 40 East Fillmore Avenue, St. Paul, Minnesota.

MEMBER FAM FIRE APPARATUS MANUFACTURERS ASSOCIATION



Model CD-3
1000 GPM

Waterous
DEPENDABLE PUMPS
SINCE 1886

Shamokin, Pa.—Grace Luthern Church destroyed.
Stowe, Pa.—Warehouse of William Highway Express Co., damaged.
Unionville, Pa.—Plant of Highland Dairy Produce Co., Route 82, five miles northwest, damaged.
Upland, Pa.—Upland Baptist Church, chapel and recreation hall, destroyed.
Wilkes Barre, Pa.—Warehouse formerly occupied by Sheldon Axle Works, destroyed.
Forestdale, R. I.—Tondre Furniture Co. building and stored textile machinery, of Costa Bebe, damaged.
Orangeburg, S. C.—Mary E. Dunton Hall, women's dormitory at Claflin College, destroyed.
Mitchell, S. D.—Administration building of Dakota Wesleyan University, destroyed.
Knoxville, Tenn.—Tyson Junior High School, Kingston Pike, damaged. Possibility of arson.
Lebanon, Tenn.—King Produce Co. building damaged. Defective wiring.
Memphis, Tenn.—Garage-warehouse of South Memphis Lumber Co. destroyed. Gas explosion.
Memphis, Tenn.—Grain elevator, Lamar Airways intersection, destroyed.
Morristown, Tenn.—Clyde's Manufacturing Co. factory building and contents, destroyed.
Dallas, Tex.—Hotel Adolphus damaged.
Blanding, Utah—Lyman Garage on southeast corner of Main street and Utah Highway 47, destroyed.
Bountiful, Utah—Induction Steel Foundry Co. destroyed.
Barton, Vt.—Ray P. Webster grain store and grist mill and N. J. Nassikas cheese factory, destroyed.
Buena Vista, Va.—Mountain View, one of Rochbridge County's historic homes, owned by Colonel Milton B. Rogers, destroyed. Coal furnace explosion.
Richmond, Va.—Building occupied by office furniture store, seal-making plant and wholesale dairy firm, in business section, destroyed.
Aberdeen, Wash.—Strand Cannery building and contents, destroyed.
McCleary, Wash.—Simpson Logging Co. plywood plant, damaged.
Seattle, Wash.—Sterling Sleeping Bag Co. damaged.
Walla Walla, Wash.—Tex Brotherton Sales-Service, including eight automobiles, destroyed; Tum-A-Lum Lumber Co., damaged.
Yakima, Wash.—Sloan building occupied by Mack's creamery, apartments and Kelley's drug store, destroyed. Hot chimney.
Clarksburg, W. Va.—Old St. Charles Hotel building housing a women's clothing shop, a jewelry store and shoe store, destroyed.
Madison, Wis.—Downtown dining spot, Simon House, destroyed.
Milwaukee, Wis.—Meyer Co. Furniture Store destroyed; adjacent W. H. Theis Plumbing Supplies Co., also destroyed.
Fort Francis, Ont.—Griner room of Ontario-Minnesota Pulp and Paper Co. plant, destroyed.
Long Branch, Ont.—Silver Star Grill destroyed. Explosion.
Picton, Ont.—Warehouse destroyed.
Port Arthur, Ont.—Nipigon Inn, destroyed.
Toronto, Ont.—Toronto's second oldest church, St. George the Martyr, in downtown, destroyed.
Toronto, Ont.—Building leased as warehouse by Crosley Radio & Television Co., destroyed.
Toronto, Ont.—Day building occupied by Precision Automotive Co.; Parkview Press; Wilton Electric Co.; Tombo Restaurant; Groggo Co., importers and exporters; Grant Collecton Agency; York Discount Co.; Norman MacDonald Co., abrasives manufacturers; Blue Bird Ink Co. and Gill Printing Co., damaged.
Leeds, Que.—Fernand Bolduc's sash and door factory, his home and dwellings of Adelard Payeur and Arthur Blais, destroyed.
Montreal, Que.—Building occupied by Toben's Fruit Co., Ubald Brien Tobacco Shop, St. Viateur Hardware and apartments, damaged.
Montreal, Que.—Section of LeMoyne-Iberville School, destroyed.

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Questions and Answers

Some Problems in Stream Calculations

To the Editor:

I would appreciate your answering ing the following questions:

1. What is the maximum effective horizontal reach of a fire stream from a 1½-inch nozzle with a pressure of 55 pounds?

2. Four hundred fifty-one gallons per minute are being discharged at 65 pounds pressure. What is the size of the nozzle?

3. Three 1½-inch lines were used for 17 minutes in extinguishing a fire. Pressure at two of the nozzles was 50 pounds, and the pressure at the third was 81 pounds. How much water was thrown on the fire?

4. A pumper at 240 pounds pressure is pumping through 400 feet of 2½-inch hose into the street connection of a standpipe system of a ten-story building. The pumper is at a point approximately 30 feet above the level of the standpipe connection. A 100-foot line of 2½-inch hose with a 1⅛-inch nozzle is connected to the sixth floor standpipe connection. Allowing 12 feet per story, what is the nozzle pressure?

5. Two engines are pumping through parallel lines of 2½-inch hose, one line 700 feet in length and the other 500 feet, to a deck gun. Pressure at the 1½-inch nozzle is 60 pounds. What is the engine pressure?

6. One engine is pumping at 220 pounds pressure through 1200 feet of 3-inch hose, and another engine is pumping through 900 feet of 2½-inch

hose at 180 pounds. The two lines are siamesed into a 200-foot line of 2½-inch hose with a 1¼-inch nozzle. What is the nozzle pressure?

G. M.

Answer 1. The formula for horizontal range of fire stream is $S = \frac{1}{2}\ NP + 26$ (for ¾-inch nozzle). Add five to the 26 for each ⅛-inch increase in nozzle diameter.

Your problem involves a 1½-inch nozzle at 55 pounds nozzle pressure.

$S = \frac{1}{2}\ NP + 26 + (6 \times 5)$

$= \frac{1}{2} \times 55 + 56$

$= 83.5$ feet horizontal range.

Answer 2. The formula for finding the diameter of nozzle when the flow and nozzle pressure are given is as follows:

$$\text{Diameter} = \sqrt{\frac{Q}{29.7 \times \sqrt{P}}}$$

where D is the nozzle inches; Q, the flow in gallons per minute, and P, the nozzle pressure in pounds per square inch.

In your problem Q is 451 gallons per minute, and P, 65 pounds per square inch.

$$\text{Then } D = \sqrt{\frac{451}{29.7 \times \sqrt{65}}}$$

$$= \sqrt{\frac{451}{29.7 \times 8.06}}$$

$$= \frac{451}{239.382}$$

$= 1.373$ inches. The nearest standard nozzle to this is a 1⅜-inch nozzle, which has a diameter of 1.375 inches.

Answer 3. A 1¼-inch nozzle at 50 pounds pressure discharges 472 gallons per minute, or 8,024 gallons in 17 minutes.

A 1¼-inch nozzle at 50 pounds pressure discharges 472 gallons per minute × 17, giving 8,024 gallons in 17 minutes.

A 1½-inch nozzle at 81 pounds nozzle pressure discharges 601 gallons per minute, or 10,217 gallons in 17 minutes.

The sum of these three discharges is 26,265 gallons per minute, which is the figure required in your problem.

Answer 4. The total head opposing pump pressure is 60 — 30, or 30 feet. This represents a back pressure of 30 × .434, or 13.02 pounds.

The friction loss in the standpipe is usually taken at 25 pounds. Then the effective engine pressure is 240 — 13 — 25, or 202 pounds approximately.

The total length of 2½-inch hose in the layout is 400 feet (on the ground) plus 100 feet (on the sixth floor), or 500 feet.

Nozzle pressure = Engine pressure ÷ (1.1 + KL).

Engine pressure = 202 pounds.

K, for 2½-inch hose and 1⅛-inch nozzle is .167.

L, the number of 50-foot lengths of hose in the line, is 10.

Then Nozzle pressure

$= 202 \div (1.1 + .167 \times 10)$

$= 202 \div 2.77$

$= 73$ pounds approximately.

Answer 5. Engine pressures in this problem are variable. That is, they can be varied from zero up to the maximum safe pressure. Under these conditions, you might have a variety of engine pressures on the two engines which would give the same result at the deck gun.

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SINCE 1836

Thus at least one of the engine pressures must be known before this problem can be solved.

Answer 6. In solving problems where you have siamesed lines of different lengths and different diameters, as well as different engine pressures supplying these lines, we must use an approximate method of solution.

This method is to first change all hose to 2½-inch; average the parallel lengths of 2½-inch; average the two engine pressures and then solve for nozzle pressure.

1,200 feet of 3-inch hose is equal to 1,200 ÷ 2.6, or 462 feet of 2½-inch hose.

Now average the two lines of 2½-inch hose, one being 462 feet long and the other 900 feet long.

462 + 900 = 1362

1362 ÷ 2, or 681 feet, average length.

Combine these two lines into a single line of 2½-inch hose by using the conversion factor 3.6.

681 ÷ 3.6 gives 188 feet, which is the length of a single line of hose equal to the two parallel lines from the standpoint of friction loss.

Average the engine pressures: 220 + 180 = 400 ÷ 2, or 200 pounds pressure average.

Next add to the equivalent of the two parallel lines in terms of a single line of hose the 200 feet supplying the 1¼-inch nozzle.

188 + 200 = 388 feet, the total length of the 2½-inch hose (single line) in the layout.

Nozzle pressure = Engine pressure ÷ (1.1 + KL)

Engine pressure = 200 pounds

K, for 1¼-inch nozzle on 2½-inch hose, is .248

L, the number of 50-foot lengths of hose in the line is 388 ÷ 50, or 7.76

Then N. P.

$= 200 \div (1.1 + .288 \times 7.76)$

= 66 pounds approximately.

Total Pressure in Closed Container

To the Editor:

To a closed cylindrical tank, one foot in diameter and approximately three feet in length (and having a total inside surface of 11 square feet), is attached a 2-inch diameter vertical pipe 100 feet in height. This 2-inch pipe is filled to the top with water. The total pressure on the inside surface of the tank, due to the 100-foot head of water in the vertical pipe will be most nearly (1) 280 pounds, (2) 480 pounds, (3) 4,800 pounds, (4) 6,800 pounds, (5) 68,000 pounds.

R. F. S.

Answer: One of the primary laws of hydraulics is as follows: "Pressure applied to a confined fluid from without is transmitted in all directions without diminution."

Where a vertical pipe taps a closed container, the pressure per square inch represented by the head of water in the pipe is transmitted without diminution to all the inner surface of the container.

The pipe is 100 feet in height, so the pressure created by the water contained in this pipe will be 100 × .434 or 43.4 pounds per square inch.

The inner surface of the tank is 11 square feet, or 1584 square inches.

The total presure on the inside of the tank will be 1584 × 43.4, or 68,745 pounds approximately.

Thus the answer (5) would be the correct one.

Pumping Into Sprinkler System

To the Editor:

If an engine is pumping into a sprinkler system (system being dependent upon the pressure in the mains only) can the engine close the valve in the connection from the main to the sprinkler riser, if the engine pressure exceeds the pressure shown on the compound gauge?

R. H. C.

Answer: Where there is but one water supply connection to a sprinkler system, leading from the public water system, a check valve is installed if there is likelihood of water circulation or if there is a fire department connection on the system.

Ordinarily, the check valve is placed on the supply main; then there is a gate valve and finally the fire department connection.

With this layout, which is standard, a pressure in the fire connection greater than that in the water main will close the check valve, shutting off the supply from the main. However, such a result is very necessary, for otherwise the fire department would be pumping water back into the water system, rather than to the sprinkler system. Should the fire department be using water from a source, the purity of which is questionable, there would be danger of polluting the water supply in the city main system if the check valve were not there to prevent back flow.

World Wide Fire News

By Rol B. Woolley

Fearsome Figures on H-Bomb Fall-Out

Data released last month by the Atomic Energy Commission disclosed the disturbing fact that the hydrogen bomb tested by the U.S. a year ago polluted a 7,000 square-mile area with lethal radioactive fall-out. The Pacific area subjected to the fall-out, the report said, was almost as large as the 7,836 square miles of land and inland waterway in New Jersey, and was one-seventh the size of New York State, and just under the 7,066 square miles of Delaware and Connecticut combined.

The Commission's report was based on an explosion in which the fireball touched the surface of the earth. This blast draws up large amounts of materials into the bomb cloud. These materials fall back to earth as radioactive particles. Lighter particles are carried great distances by winds.

It was noted that an in-the-air explosion, where the fireball does not touch the earth's surface, will not "produce any serious radiological fall-out hazard." The Commission said it hoped the dangers of an atomic war never would be experienced by mankind

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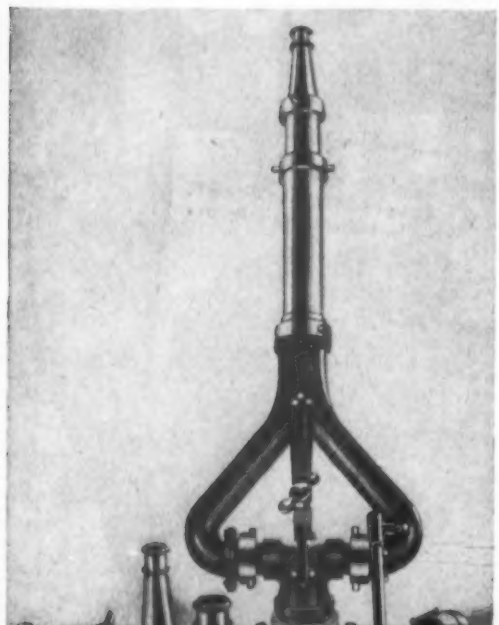

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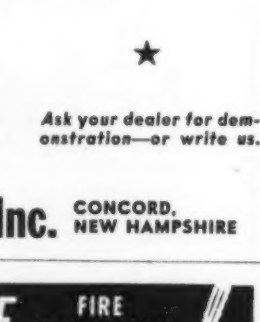

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and noted that in such a war "many simple and highly effective measures" could be taken by individuals to reduce casualties outside the immediate area of complete or near-complete destruction.

"Since nuclear weapons are in possession of the U.S.S.R., the commission believes that the American people wish to be informed regarding the dangers of nuclear explosions and the measures which individuals can take to protect themselves if an atomic attack should occur. . . . Should war come," L. L. Strauss, chairman of A T C said, "the fall-out from large nuclear bombs exploded on or near the surface of the earth would create serious hazard to civilian population in large areas outside the target zones."

Relative to protection against fall-out, the A.E.C. said that being indoors on the first floor of an ordinary frame house would reduce exposure to about one-half of the level of out-of-doors. Greater protection would be afforded by a brick or stone house. The basement of an average house would reduce the radiation level to about one-tenth that of out-of-doors. An "old-fashioned cyclone cellar" would cut radiation to about one-500th, or down to a comparatively safe level.

There have been 57 announced tests of nuclear devices. This breaks down to 48 by the United States, 6 by the Russians and 3 by the British. In this country, a new series of large scale nuclear weapons tests got under way in February of this year.

* * *

Damage Beyond Computing?

"Unofficial estimates placed the damage at several hundred thousand dollars." That's what the reports read, adding "The fire wiped out ten months of work on the project."

The fire in question that prompted these "estimates" by government and other officials, swept through the main shed of the Defoe Shipbuilding Co. early on February 2, last, destroying the plastic hull of an experimental 56-foot United States Navy Minesweeper.

The Minesweeper, known as the MSB23, was a prototype of a non-magnetic vessel under development by the Navy, as part of an experimental project valued roughly at $1,500,00. The project, press reports said, was half completed.

The vessel's plastic hull was designed to enable it to pass safely over magnetic mines which can be activated by the steel hulls of conventional ships.

* * *

Bedroom Fireball Burns Philadelphian

Maybe it's a "Ripleyesque," but this is the way the news agencies had it. William C. Cunningham, 52, of Philadelphia, was standing in his bedroom on January 23, last, when he heard a crash of glass. He turned and saw a fireball, about the size of a grapefruit, "bounce off an oil heater to the floor." Then it exploded.

His first thought was to throw the object out the window. Mr. Cunningham said: "It was hot and heavy and I threw it; it blazed up and seemed to disintegrate. Some of it landed on the bed and exploded again."

Mr. Cunningham's right hand was burned almost to the bone. If the projectile had been blasted off a comet, two Philadelphia astronomers said, it

would be the first to reach the ground still aflame.

Fire Marshal Francis X. Joseph tested it with a 1700 degree flame from a propane torch, but the object "only glowed." He got no reaction, it is said, with a magnet.

However, Dr. C. P. Olivier, emeritus professor at the University of Pennsylvania, and Dr. I. M. L. Levitt, director of Fels Planetarium, both expressed doubt that it was a meteorite. Dr. Olivier said:

"From everything that I have been told by the firemen and the fact that the object came through the window at an angle instead of through the roof, I believe it may have been a home-made bomb."

Dr. Levitt said most meteorites burned themselves out before they hit the ground.

* * *

From the World News Ticker

Japanese police on February nervously searched the city of Konoshu, near Tokyo, for 300 sticks of dynamite which passerby picked up when a truck overturned. The dynamite could easily be mistaken for kairo sticks, a fuel which Japanese use in portable warmers. . . . Hurricanes Carol, Dolly, Edna and Hazel cost Lloyds of England, $112,000,000 in November last. Underwriters of the famous insurance company said they expected to pay out every few years on one hurricane, but that four in one season was a heavy burden. The hurricanes are estimated to have killed more than 300 persons and caused damage of $1,355,000,000, of which $112 million represented Lloyd's bill. . . . An explosion tore through a small frame building at the Hercules Powder Company, Port Ewen, N. Y., on January 7, last, critically injuring one woman. Explosion occurred in what officials said was the "dry room" where Government detonators were processed. . . . In Johannesburg, South Africa, Pieter Nel, the city's thinnest fireman, squeezed through an 18-inch manhole and dropped 30 feet into a sewer to rescue a dog. With a safety rope around his waist and wearing breathing apparatus, Nel wriggled his way down. The dog suffered an injured leg in the fall. . . . A fire swept through two acres of the Union Spinning Mills, Port Elizabeth, South Africa, on January 22, last, causing damage at over $2 million. The mills turn out close to 50 per cent of South Africa's woolen yarn and knitted wool products. . . . Fire on January 24 destroyed the $336,000 West Melbourne, Australia Stadium, scene of most of Australia's big fights, and the city's largest entertainment center. . . . Three persons were killed and two others, including a 3-year-old baby, were injured when a disabled jet fighter plane made an emergency landing and spun off an airport runway into a group of trailer houses in Brighton, Eng., on January 25 last. A petty officer and his wife were killed in one of the trailers. . . . In Sandringham, Eng., six-year-old Prince Charles, heir to the British throne, pitched in on January 22, last, to help four fire brigades who rushed in to Sandringham House, the royal estate. The firemen laid out the hose to a lake on the grounds and they let the Prince turn on the water. No fire. The lads were just drilling in the event of a blaze such as swept Sandringham in 1903. . . . The wail of sirens in Milan, Italy's, National Bank of Labor brought police and firemen on the run recently. They found

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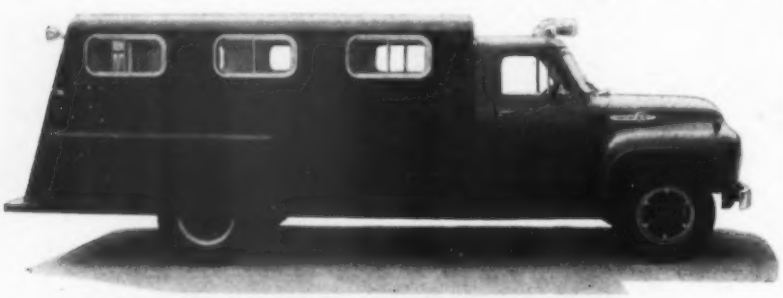
a black kitten stalking mice near the vaults. . . . Five persons leaped to death from a 70-foot cliff in Hong Kong last December to escape a fire in the squatter area. Most of the inhabitants are refugees from Communist China. . . . In Reichelsheim, Germany, a Mrs. Margarethe Walther told her husband to go home from a Christmas party. He refused to go. She threatened to burn their house down if he did not come. home. He gave her the laugh, police said. She went home alone, set the house on fire, and went back to the party to tell her husband about it. Damage was estimated at $500. . . . Nearly 2,000 convicts rioted for 12 hours in the Olmos prison January 8 last, in Argentina's most serious rebellion in years. They were finally subdued by reinforced police and firemen. During riot, inmates smashed windows and furniture and set fires that destroyed the library and prison school. . . . Fire swept a Lake Maracaibo passenger vessel on January 7, last, near Caracas, Venezuela, killing eight persons and injuring 11 others. Fifteen reported missing. . . . More than 3,400 priceless national treasures of the Yi dynasty, which ruled Korea for 500 years, were destroyed in a fire at Pusan early in January. . . . A dog seeking warmth during a blizzard at Akita, Japan, on January 8, last, crawled under its owner's quilt blanket—and upset a charcoal footwarmer. The house caught fire. Flames spread to thirteen other homes. Result three persons killed, 18 families homeless. A delayed report tells about a film projector that set a requisitioned clubhouse for Russian soldiers afire in Vienna, Austria. Several score Soviet troops were driven out of the building. Firemen said the building burned to the ground because the Russians didn't call them until it had been burning half an hour. . . . A gasoline-loaded tanker was crippled by a mine near Nyborg, Denmark, on December 25. Several seamen were injured. Munitions experts said it was a miracle that the mine didn't blow the Danish tanker Esso Koebenhavn sky-high. Ship was beached. . . . Tarrytown, N. Y., firemen battled for an hour early in December to put out a blaze 110 feet above ground at the end of the huge new Thruway Bridge being built over the Hudson River. Heater on a steam generating plant set fire to tarpaulins and wooden falsework. Four Butane tanks exploded. Firemen, all volunteers, drove several hundred yards onto the bridge roadway to reach the blaze. . . . In Ft. Huachuca, Ariz., a news photographer got the scare of his life while covering a new weapons demonstration last January. He walked in front of an electronic device, felt his pockets heating up and discovered all of his flash bulbs had popped off. . . . The 120-year-old Bangor House, in Bangor, Me., the hotel where Carrie Nation threatened to swing her saloon-wrecking hatchet, was badly damaged by fire during the holidays (Thanks J. K.). A fire in Macao on January 8 last, destroyed 4,500 wooden huts, killed a Chinese woman and her two children and left over 8,000 homeless. . . . Seven persons died in a pre-dawn fire which destroyed a furniture store in Tokyo on January 7. . . . A freighter loaded with flammable chemicals burned at a dock in Marseille, France, December 21, 1954, and sank.



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Obituaries

Ex-Chief G. W. Bogardus Dead

George Washington Bogardus, 88, first chief of the Norwalk, Conn., Fire Department following its consolidation, died on February 3 in a private hospital at St. Petersburg, Fla., of injuries received in a fall recently in his home there.

Ex-Chief Bogardus, who had resided in Florida the past several years, was a fire fighter more than 50 years. He was retired as Chief of Department in 1937.

Chief Bogardus was credited with having built the Norwalk paid department to a high degree of efficiency. He organized that city's first fire school for paid men. He was born in Danbury and came to Norwalk at an early age.

TOM MAGNER

Roy L. Hunt Dead

Roy L. Hunt, 59, of Washington, D. C. died Saturday, January 22, 1955, at the Washington Sanitarium.

At the time of his death he was Chief, Safety, Fire Prevention and Protection Branch, General Services Administration. In this position he initiated and directed the nation-wide programs in accident and fire prevention of the General Services Administration Guard Force of approximately 2,500 men.

Mr. Hunt was one of the pioneers in the introduction of accident and fire

prevention, and fire protection into the Federal Government. At the time of his appointment in March 1931, as Associate Dust and Explosion Prevention Engineer, Bureau of Chemistry and Soils, of the Department of Agriculture, very few Safety and Fire Prevention Engineers were employed by the Government.

Ex-Chief F. F. Dickinson Dead

Frank Freeman Dickinson, 84, retired chief of the Brockton, Mass., Fire Department, died late in 1954. He became a Brockton fire fighter in 1890 and was chief of department from 1928 until his retirement in 1946. He succeeded Chief William F. Daley, who was drowned in the Moosehead Lake boating disaster in 1928.

The most tragic moment in Chief Dickinson's career came when 12 of his firemen were killed in the collapse of the Strand Theatre on March 10, 1941.

Chief Dickinson was active in New England fire service circles. He was for two years president and six years vice-president of the Massachusetts Fire Chiefs Club; he served three years as president of the Plymouth County Fire Chiefs Club.

He served as a call fireman before he was appointed to the force in 1891. In 1905 he was made lieutenant and in 1909 he became captain. In May, 1916, when Chief Marston died, William F. Daley took his place, and Dickinson was elevated to the post of first assistant. He was appointed chief in 1928.

W. F. Schepp Dead

William F. Schepp, 67, prominently identified with fire circles in Connecticut for several years, died at Nichols, Conn., on Feb. 6. A fire commissioner in the Nichols Fire District for the last 18 years, Mr. Schepp was a charter member of the Fairfield County Fire Chiefs' Emergency Plan.

TOM MAGNER

Chief W. F. Egelston Dead

William Forest Egleston, chief of the Jamestown, N. D. Volunteer Fire Department for the past 11 years and a member of the department for 34 years, died Dec. 19th, last, following a heart attack. He was a member of the International Association of Fire Chiefs, a special deputy for Stutsman County and he served as an instructor for the North Dakota Fire Schools. He was also active in Civil Defense work.

Ex-Chief L. S. Cameron Dead

Lloyd S. Cameron, Chairman of the West Haven, Conn., Board of Fire Commissioners, and retired Chief there, died on February 16, following a heart attack. He was 72 years of age.

Mr. Cameron was Chairman of the Board of Fire Commissioners in the First District for the past three years. On July 15, 1945, he retired as Fire Chief after 26 years in that office, and 47 years of service in the West Haven Fire Department.

He was a member of several organizations, including Anawon Lodge 115, the Connecticut State Fire Chief's Club, and the New Haven County Fire Chiefs' Emergency Plan. TOM MAGNER

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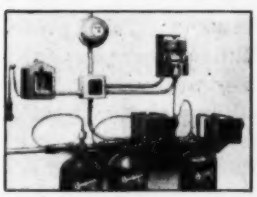

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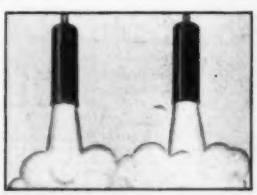

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

TRAINING FIRE APPARATUS DRIVERS

DIFFERING from the days of horse drawn fire apparatus, where each steamer carried a driver and an engineer, today the two jobs are combined into one. The apparatus driver today, whether the apparatus be a pumper or a ladder truck, drives the unit to the fire and operates it when he gets there.

Thus a wider range of knowledge is needed by today's driver than that possessed by the one in the day of horse-drawn apparatus. Despite the greater responsibility, many fire departments today pay only fireman's wages to the driver-engineer. Some, of course, do have a slightly higher scale for driver-engineers.

Such examinations vary widely in scope in different municipalities. For example, in one city, a physical test includes telebinocular, field of vision, visual acuity, glare recovery, hand steadiness, complex reaction and distance judgment, as well as a check on temperament and stability.

In addition, the candidate is given a driving test which includes apparatus operation on a highway, over an obstacle course; pumping from hydrant and draft; driving up and down hills, through traffic, over railroad and street car crossings; driving forward and backward, maneuvering; setting pumper at plug; setting aerial ladder in position, etc.

In smaller communities, the test may include only driving and pump operation. Experience in driving is gained by new men on returning from alarms.

In some fire departments every man must qualify as a driver; in others, men are selected by examination, and only those qualifying may drive apparatus.

In those departments having comprehensive programs, instruction of driver-engineers may include automobile engine and pump construction, care and maintenance of apparatus, hydraulics as applied to engine pressures, nozzle pressures, friction loss in fire hose and allied topics.

Readers are invited to send in their contributions to this discussion which will be continued in the April issue. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Subject

James H. Burke, Chief, Oakland, Cal.: The Civil Service Board holds promotional examinations for chief's operators and engineers and men for these positions are appointed. Drivers of hosewagons and trucks are selected from men qualifying in our annual drivers tests. Here is a list of the number of drivers in each division: 17 operators, 76 engineers, 54 truck drivers, 42 hosewagon drivers, a total of 162, including relief drivers. We also have tested and qualified 262 prospective drivers who may be used at any time.

All drivers and prospective drivers are given tests once a year. Beginning in December and running through January, all member's eyes are tested. American Trucking Association standard testing devices are used. These consist of the Schnelling eye chart, depth perception, color deficiency, reaction time, night driving and glare recovery. We also test their muscular balance with the Telebinocular.

If, in the opinion of the eye examiner, a driver should wear safety glasses, the City furnishes these upon a receipt of an optometrist's prescription furnished by the driver. We keep a copy of the eye examination and give a copy of the results to each man tested.

Superintendent of Engines, Harold Anderson, and Captain Harold Smith,

HERE IS THE QUESTION

1. **Do members of your fire department to be assigned as drivers of apparatus receive special training to qualify them?**
2. **Of what does this special training consist?**
3. **What is the average time required to train a driver?**
4. **After they have completed the required period of training, are they subjected to further tests to determine their fitness? If so, of what do the tests consist?**
5. **If no special training is given drivers, how are drivers selected?**

Driver Supervisor, conceived the idea of a Drivers' Roadeo, as a means of testing and training drivers. As Chief Engineer of the Department I heartily endorse this idea. Starting in March each year, all drivers as well as prospective drivers, go through this Roadeo. Doing four pieces of apparatus a day, the Roadeo takes about three months; after which Driving Supervisor Smith visits all fire houses to discuss the driving papers and then turns the papers over to the men. This discussion of papers and re-training takes another three months so the Roadeo program is a six months Safety Program.

The Company tops out of service and responds to the Roadeo area. This is a street approximately 1,000 feet long in the dock area with little or no traffic. Each man is given his driving test on the apparatus he is riding or assigned to. Driver Supervisor Smith does all of the testing. At the end of the finals, driving certificates are given to all qualifying men. Those failing to qualify are given additional training at the Roadeo area, using a spare piece of apparatus. Truck drivers, hose-wagon drivers and prospective drivers not qualifying after re-training, are not given driving certificates. They may drive only on non-emergency runs, such as back to quarters, inspections, etc.

Tying in with this safety program we have an Accident Hearing Board composed of the Assistant Chief on duty, Personnel Chief, Superintendent of Engines, a Safety Consultant for the City of Oakland, and the Driver and Engineer Supervisor. This Board reviews each accident with the driver to determine the cause and whether there has been a violation of rules and regulations, as well as to determine if additional rules are needed to prevent future accidents of this type. Drivers having a chargeable accident against their record during the year may win a cash prize in the Roadeo but are not entitled to win the Sweepstakes award as best over-all driver for that year.

A 35 m.p.h. sticker placed on the windshield of each apparatus was one of the first restrictions. This is the maximum speed for all ordinary fire calls and greater alarms. When informed over the loud speaker of a known life hazard, as persons trapped or endangered by fire or a call for the inhalator squad, a driver may exceed this limit but with all due regard to safety. An accident under these conditions shows poor judgment on the part of the driver.

We have been very pleased with the results of this program started in 1953. In 1952, we had 29 accidents. In 1953, we had 21 accidents. In both of these years we had accident claims and lawsuits. In the year just finished, we had but 16 accidents, few damage claims and no lawsuits. In this year of 1954 only eight accidents were chargeable to our drivers.

Details of our Roadeo program follow:

The Oakland Fire Department's Annual Roadeo was designed for testing drivers for skill and ability and to find out what further instruction was necessary to have each driver qualify as a top-rate driver.

Drivers in the Roadeo earning 850 points or 85 per cent were considered

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CIRCUL-AIR
"A-Z"
FIRE HOSE
WASHER

- Washes and Drains in One Operation
- Cleans Thoroughly—With or Without Detergent
- Uses Clean Water Throughout Process
- No Immersion Tanks to Collect Sediment
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- Loading Turn-Tables useful also for Re-Loading Hose Truck and Dryer

The new, inexpensive A-Z Hose Washer drains and rinses the hose as it washes. 4 Roto-jets constantly spray hose with clean, fresh water—all sediment is flushed through collecting pan and down the drain. Can be used with or without soaps or compounds. Semi-automatic, the A-Z is operated by just one man. The brisk action of the cleaning brushes moves the hose slowly through the washer. No strain. No fatigue. Turn tables keep the hose OFF the floor. They're excellent for re-loading truck (several lengths may be stacked on each) or loading the hose dryer.

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The patented, electrically operated Circul-Air hose dryer circulates pre-warmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life!

No other method is so fast—so economical—so easy to use. If *you* haven't enjoyed the benefits of Circul-Air, we suggest you investigate its merits now.

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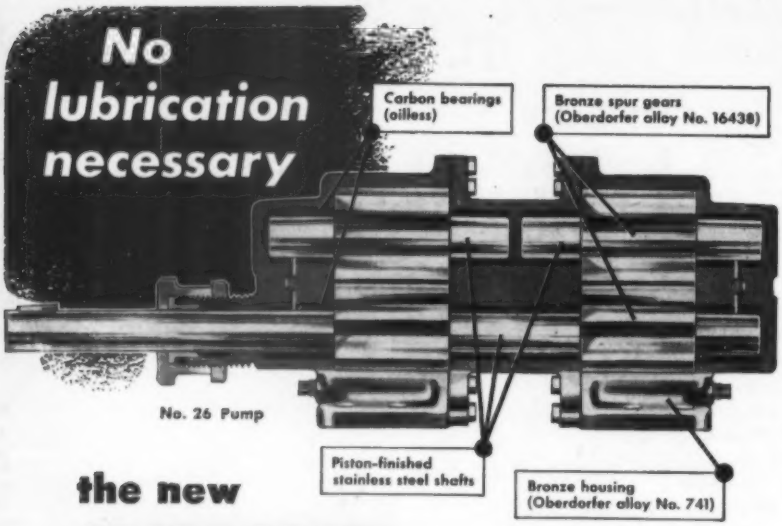
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Carbon bearings (oilless)
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PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1660	120	500'—1½"	20'	150
13	1300	120	500'—1½"	20'	75

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passable as emergency drivers and were issued a driving certificate for that year. Drivers who did not qualify with 85 per cent and were needed as drivers, were given additional driver training.

The Roadeo consists of Ten Events with a perfect score of 100 in each event or 1,000 in the entire Roadeo.

First Event is a true and false questionnaire based upon the State Vehicle Code Driving rules of the department, and safe driving practices as applicable to emergency drivers. If there are twenty questions then each has a value of five to be substracted from the 100 if missed or omitted.

Second Event consists of driving straight ahead approximately 200 feet and stopping with the front bumper directly above a white painted line which has a length of 10 feet and a width of 4 inches. One stop is allowed. For each inch the bumper is beyond the line there are two points subtracted and for each inch short of the line there is one point subtracted. The examiner rides with the driver in this event and marks "points off" for bad driving habits, such as leaving the seat, riding the clutch, bad shifting, etc.

Third Event consists of backing up approximately 200 feet and making one stop with the rearmost part of the apparatus directly above the white line which are the same dimensions as given in the Second Event. The penalties for over or under the line is also the same as Event Number Two. The examiner also rides with the contestant in this event.

Fourth Event consists of driving ahead between three stanchions 5 feet tall, spaced evenly on a white line. The apparatus turns left between the first two stanchions and right between the second and third stanchion and then straightens out. The distance between the stanchions is the vehicle length, plus the width, plus one foot. Points are taken off for bad driving; change of direction; touching stanchions, etc. The examiner rides with the contestant in this event.

Fifth Event is the reverse of the Fourth Event—that is, to back through the stanchions.

Sixth Event is to drive ahead keeping the right front wheel on a 4-inch line 100 feet long. The line has a cross (X) mark every 20 feet. Each 20-foot space represents 5 points subtracted if the tire leaves the line in any space. The examiner has to observe the line from outside the vehicle in this event although he may still look for lugging of the motor, improper shifting, etc.

Seventh Event is to move backward the length of this 100-foot line keeping the left outside rear tire on this line. For the tire leaving the line in any space the penalty is the same as in the number Six Event.

Eighth Event is to drive ahead approximately 200 feet, and with one stop have the right front tire on top of a white circle 8 inches in diameter. From the closest place the tire rests on the pavement to the circle, each inch away represents one point subtracted. The examiner rides with the contestant in this event.

Ninth Event is to drive through narrowing stanchion at a sped of between 20 and 25 m.p.h. There is a penalty if the contestant slows down

below 20 m.p.h. Six stanchions are used on each side evenly spaced for 100 feet. The width at the entrance end is one foot wider than the vehicle. The examiner rides in the vehicle also in this event. Hitting stanchions are also penalties.

TENTH EVENT which the examiner observes from the outside is parking. Four stanchions and two cross bars are used, and a white painted line representing the curb. The vehicle is placed prior to the test along the white line with the wheels approximately 4 inches away from the line. Two stanchions are placed at the rear of the vehicle with the cross bar between them. One stanchion on the curb line the other at the outside width of the vehicle. The vehicle is now driven slowly forward and turned outward sharply. The other two stanchions and the cross bar are moved into place leaving 16 inches over the turning out space required. This distance is recorded for each piece of apparatus and is obtained before any actual testing. The contestant is allowed to back in and where he stops the measurement is taken from there. No jockeying or changing of direction is allowed. For each inch either wheel is away from the curb over 18 inches, there is a penalty of one to be subtracted.

Hitting the curb with one or two wheels or hitting stanchions are penalties.

The penalties subtracted from 1,000 will give the total points or percentage. Our drivers are divided into four groups: Drivers of Chief's cars, Engineers driving engines, truck and hose wagon drivers, and prospective or new men who may drive either engines, hose wagons, or trucks. The top 12 men, 3 from each are chosen to run off the finals to determine the one best driver for the year.

Under the auspices of the Moose Club there are $700.00 in war bonds to the winners: four first prizes of $100 War Bonds; four second place prizes of $50 War Bonds; four third place prizes of $25 War Bonds and the top man also wins the sweepstake award which may be a cup, plaque or any extra prize.

Harold H. Dean, Chief, Phoenix, Ariz.: Training of members of the Phoenix Fire Department to be qualified as drivers of apparatus, is handled within the department by the captains and engineers of the various companies and supplemented by study material and drills by the department drillmaster.

Members are allowed to drive apparatus to and from the department shop and drill tower and when returning from fire calls. They are also permitted to operate the pumps in company drills at the drill tower.

A member must have at least three years service with the department to qualify to take a promotional examination for the position of engineer or driver.

The promotional examination consists of a written test, an oral interview and a practical driving and pumping demonstration, all of which are designed to determine the fitness of the candidate to be assigned as a driver or engineer of fire apparatus.

H. C. Fisk, Chief, Tacoma, Wash.: All members of the Department (outside of the officers) are given a Keystone

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Drive Vision Test. This test is given by the Washington State Patrol. A uniformed member of the State Patrol comes to the fire stations. We have just completed this testing.

We also hold a skill driving test, the same type as used by the City of Oakland, and the City of Boston.

The eye or Keystone Drive Vision Test takes about five minutes and the skill driving test takes 37 minutes. After this form of driving we take the men and apparatus to a steep hill for doubling shifting. As you know, the City of Tacoma has many steep hills and it is tough on machinery if the driver does not know how to handle apparatus. This skill test is held under the supervision of the State Safety Engineers.

The City of Tacoma takes out $200,000.00 in liability insurance, and it is up to me to make sure that my men have the proper supervision in driving training.

Donald S. Charles, Chief, Charlotte, N. C.: It has been a practice of this department to qualify as many men as possible on all companies as drivers, even though only three men are assigned regularly to the first, second, and third driver's position to make certain that a qualified man is available in the event of absence due to sickness, vacations or days off.

Our drivers are selected on the basis of temperament and prior experience in handling heavy vehicles and are observed by the company officer who assigns them to duty of driving the apparatus back to quarters after fires.

If the person shows an aptitude for this type of duty he is given further instruction in the use and operation of pumps at the Drill School along with additional driving instruction in traffic.

No specified time is prescribed for this training. However, experience has shown that several months are needed for a person to progress through the various stages and qualify as first drivers.

Michael H. Lotz, Chief Engineer, Baltimore, Md.: Pumper operators are classed as Enginemen and Assistant Enginemen and must pass a promotional civil service examination, consisting of both pumper operation and driving. This is a written and practical test examination. Drivers of ladder companies and other apparatus not equipped with pumps are trained by company commanders.

The drivers are trained until they qualify; there is no time limit.

Annual driver training and driver tests are conducted, consisting of barriers and obstacles, similar to those used at the American Motor Truck Association Roadeo. Every fire fighter who drives must take this test and he is given a mark, on a regular form, covering his ability. All drivers are required to have a permit to operate motor vehicles.

All drivers are also given a Keystone telebinocular eye test annually.

Driver records and eye test records are kept for future reference.

John R. Lynch, Chief, Youngstown, Ohio: All drivers on our department receive special training that qualifies them to become eligible for promotion through a competitive examination to the title of engineer, a rank between

a hoseman and captain.

Every new man appointed to the department receives his initial training by driving the apparatus back to quarters from an alarm. He gradually gets enough experience so that he can drive to an alarm in the absence of the engineer. During the summer months, the extra drivers are taken out at least once a month by our drill master and instructed in the operation of the various pumps and aerial trucks.

There is no average time to train a driver as some men may qualify in a few weeks while others may take longer. After they qualify to become extra drivers, there are no other tests to determine their fitness other than after three years of service, they are eligible to take a competitive examination for engineer which is the classified rank of our drivers.

* * *

The following replies are in answer to a former discussion on salvage work.

Steve Taylor, Chief, Boise, Ida.: Covers are carried on all apparatus, each company carrying at least two and sometimes as many as ten.

It is a proven fact that on each salvage cover operation many items are protected from water damage, some of which have a personal value that could never be replaced by insurance.

It is excellent public relations and gives a department the feeling that they are rendering the best possible service.

At all fires, wherever possible, mopping or pumping is immediately put into operation as soon as the fire is knocked down enough to carry it on. The debris from the fire is taken outside and placed in a pile. Of course, the extent of damage determines how much of the burned materials the fire department would remove. We leave the building in as good a condition as it is possible to do so.

Charles Zumwalt, Shief, Pierre Volunteer Fire Department, Pierre, S. D.: We purchased our first salvage equipment in 1925. It has really paid off. We now carry covers on two of the pumpers and on the service ladder truck we carry complete salvage equipment including a smoke extractor. Salvage work has become a very important part of the service we give. We find it eases the shock of a fire and makes a booster out of our citizens which is very important to a volunteer fire department that must depend on donations for its activities. We do have a city budget to purchase equipment and maintain the stations.

Joseph G. Bargagini, Chief, Bethesda, Md.: We do not perform salvage work as a regular activity of the fire department as we have a squad that responds with us. We do take part in salvage work and carry covers. The ladder truck carries three covers and the pumpers carry two each.

We believe salvage work results in savings to the property owner and also helps to keep the fire loss down in most cases as well as building good relations with the public in general.

We also help in cases where water pipes and water heaters burst in homes, as well as helping where there has been a flash flood. As a general rule, we help in any case where an emergency has occurred.

YESTERDAY...

Fires Were Fought by DEFENSE

1931... Firemen are shown battling a four-alarm fire of possible incendiary origin which destroyed a cooperage plant and warehouse in California early today, doing an estimated $100,000 damage and injuring two firemen. Great clouds of smoke and flame from the fiercely burning structure covered a quarter of a block. (Int. News Photo)

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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Prison Fire Truck Wrecked—Two Dead

Two convicts, members of the Tennessee State Prison fire squad, were killed January 30, 1954, when the prison fire truck, answering an alarm of fire at the stockade, was wrecked.

The two inmates, described by the Warden as "good trusties," were pinned beneath the engine when it rolled over twice. A guard and four other inmates were thrown clear of the wreck.

According to the Warden, the fire at the stockade broke out as a result of faulty wiring, and was easily controlled.

* * *

Wrong Formula?

From Lebanon, N. H., comes a story about Mrs. Herbert Walbridge who "occasioned a visit" from the local fire department about 9:30 one morning.

It seems that Mrs. Walbridge was sterilizing nipples for her baby's bottle. The nipples had been left in a pan of boiling water on the kitchen stove while Mrs. Walbridge went on about her household duties.

The trouble started when the water evaporated and the nipples caught fire. Mrs. Walbridge was upstairs when she smelled smoke and wasted no time calling the fire department. Then she went down to discover what was burning.

By the time she'd dunked the hot nipples under the kitchen faucet, it was too late for her to cancel the call to the vamps who arrived with their combination truck all set for business but only to find the "nipple fire" had been nipped in the kitchen sink.—Thanks JONAS WELCOME.

* * *

Water Supply Cut Short

Firemen at Montville, Conn., had a fire in a five-room house pretty well under control on January 30, until a Central Vermont Railroad freight train passed.

When the freight came by the water stopped pouring from the charged line of 2½-inch hose. Believing that something had gone wrong either with the pumper or hydrant, the vamps looked back and much to their amazement discovered they had laid their hose across the railroad tracks.

TOM MAGNER

* * *

Jeweler's Home and Private Fire Truck Burns

George J. Busch, Newark, N. J., jeweler, has—or had—a palatial 15-room home in Milbrook, Pahaquarry Township, N. J., one of the state's most secluded sections. It contained an indoor swimming pool and greenhouse, and in it the owner had a rare gun collection which included both American and European pieces, about 300 in all. There was also, as part of the estate, a large garage, containing, at the time of this incident, a jeep and a fire engine.

Several years ago, Mr. Busch, doubtful about fire protection in Pahaquarry Township, purchased the fire engine from the Walpack Fire Company, the idea being to provide the desired fire coverage.

On Jan. 26, last, fire destroyed the home, garage, greenhouse — and the swimming pool (if a swimming pool can burn!). The fire engine also was a victim, and never had a chance to prove its worth when it was most needed.

It develops that the owner and his wife were away and the home unoccupied at the time of the fire, which reports state caused an estimated loss of $150,000. It was discovered by a nearby farmer when he arose to milk his cows and had evidently been burning for an hour or two before discovery.

Although the Walpack Fire Company was called and responded promptly, the volunteers could only stand by and see that the flames did not spread.

Destroyed in the blaze, with the "inactive" fire engine, was the costly gun collection.

* * *

Modesty Wins in Minneapolis Fire

Mrs. Pearl McKersie, 41, of Minneapolis, Minn. was confronted with a choice between modesty and possible death, on January 26 last, and she chose modesty. At least, that's the way the papers put it.

The lady in question, standing at a second floor window in a burning apartment building, refused to let firemen carry her down a ladder because she had on only a flimsy garment.

"I'm not dressed," she said. "Come after me through the front door."

Again, according to the press, fire fighters "obligingly knocked down the front door, cleared a path through the flames with water and rescued her."

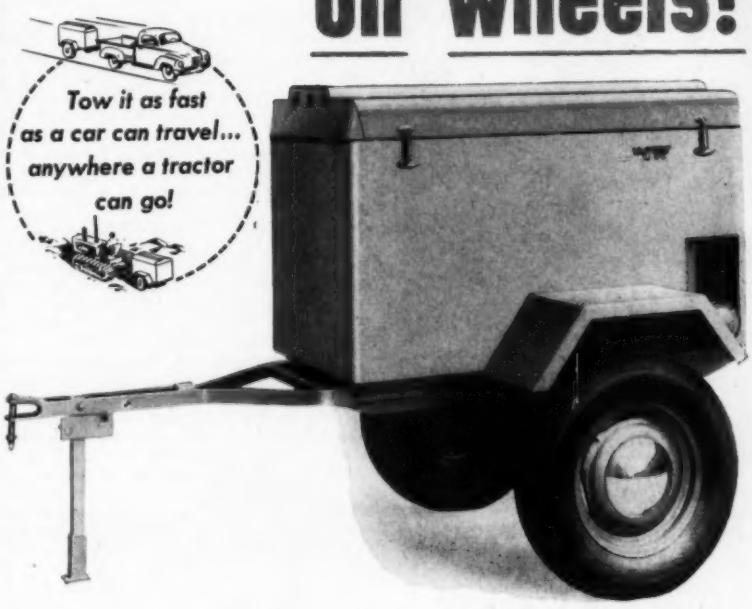
* * *

Hot Off the Tape

When fire destroyed a big hardware store in Redwood City, Calif., the window displayed fire extinguishers and "BE PREPARED" signs. The extinguishers were just dummy display models—Empty. . . . Out in Washta, Iowa, the Charles Moore family received timely warning when lightning set fire to a barn on their farm. But they got no help in fighting the flames from the source of the alert. The alarm was sounded by the frantic honking of a goose. . . . Now don't laugh!—Paris, Ky., firemen made a quick run t'other day to put out a fire—in a water fountain. They said, in extenuation, that the electric fountain in the courthouse just across the street from the firehouse, ignited while repairmen were working on it. . . . Firemen out Altadena (Calif.)—say that a football put out a fire. It happened like this. When a football exploded in the burning garage of John M. Elkenberry, the noise attracted the owner's attention and he got busy with a garden hose to hold the fire until the Brothers arrived. The fire was caused by spontaneous ignition of oil soaked waste. . . . A guy in Moberley, Mo.—who shall be nameless, burned his hand painfully. He doped it with a turpentine solution and bandaged it. Later, he tried to light a cigar. Unhuh—he burned his hand all over again—and all over. . . . The Ashdown, Ark., City Council was on the right track, but running a little late, when it voted to buy a new fire engine. The morning after vote-night four fire companies from other towns had to help fight a blaze that destroyed one building comprising one fourth of the Ashdown

business district. . . . Robert Brant had just driven into his father's yard in New Milford, Conn., when the fire whistle sounded off. Being a vamp, Robert about-faced and sped to the firehouse. He got there just in time to climb aboard the fire truck—and ride right back to his father's house. That's where the fire was. Blaze in a chimney did no damage. . . . Somewhat similar experience befell volunteer Howard Gilliam, of Georgetown, N. Y. He answered an alarm and found his own house ablaze. Minutes later he collapsed from smoke inhalation. Treated at the scene, he came around all right. . . . Speaking of coincidents: in New Haven, Conn., Fire Marshal Eugene Mulligan and a fire department inspector went to a house next door to the scene of a fire to ask if they could use the telephone. They found Mrs. Helen Peterson and her seven children all partially overcome from the lack of oxygen, caused by the flame in a ventless water heater. "I guess the Lord sent us to that particular house, Mulligan said later. "I don't think they would have died, but they would have been a lot sicker if we hadn't arrived when we did." . . . This'un comes from St. Joseph, Mo. It's about Roy C. Ray who was driving as if he was on his way to a fire, when police stopped him. Yeah!—he was. The fire was at his home. Officers took him the rest of the way in their faster moving car. Then they aided him in putting out flames that were licking his garage. Then they gave him a ticket for speeding. . . . It happened on January 22—never mind what year. The scene, International Falls, Minn. The mercury registered 33 below zero. But there was one real hot spot in town that day. Of all places, it was the ice house, too. A workman was using a blow torch to thaw out a water pipe. Torch set fire to a wall. Result—hot time in the cold town. . . . "Ten Days in a Nudist Camp" proved a bit too hot for an Oklahoma City theatre's movie proprietor. Firemen said the film accidentally caught fire while being shown and heavily damaged about $35,000 worth of supposedly "fireproof" projection equipment. . . . This'un is for dog lovers, true or not. Comes from Milwaukee, Wis. It's about Lady, a black setter, who proved how grateful she was to 17-year-old Don Sherman who took her out of the city kennels a few months before this happened and gave her a home. Well, Sherm's mother left the house, one day. When she returned she found Lady barking frantically behind the living room davenport. A frayed lamp-cord had set fire to the rug. The fire was out, but blackened patches on the floor and baseboard still smoldered. Lady's paws were singed. . . . In Fitchburg, Mass., fire of unknown cause swept a business building doing damage estimated at $10,000 but it didn't bother a beauty shop customer. She sat quietly under an electric hair dryer until fire fighters ushered her out. Wife of a fireman, mebbe? (Thanks J. K.) . . . Linden, N. J., is one of those towns along the Turnpike that has been having grade crossing troubles. Lack of crossings and scarcity of access roads on the N. J. Turnpike—said to be one of its attractive safety features—can be a headache to fire fighters. Recently a Linden fire company foam truck traveled a roundabout 20 miles to put out a fire in a truck, replenish its water supply, stop back at the scene, and return to its quarters. The firehouse is only a mile and a half from the scene of the fire.

NEW Powerhouse on wheels!



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Short Cuts and Gadgets

OKLAHOMA CITY F.D. DEVELOPS "PUNCTURE NOZZLE"

The Oklahoma City Fire Department, Chief George R. McAlpine, has a useful "gadget" developed out of a need for a type nozzle that would penetrate into hard-to-get-at concealed spaces. According to Chief McAlpine, who incidentally is past president of the International Association of Fire Chiefs, the idea was developed following several fires encountered by the department which involved sections of the building wherein it was difficult to locate and control the blaze. The final case involved a cockloft area directly above a large refrigerating plant where the refrigerators extended to the ceiling over the entire floor area below the cockloft, or attic space, between the top of the refrigerators and the roof.

This fire could not be attacked from below and had to be approached from the roof, which, according to Chief McAlpine, proved unsatisfactory. Out of this experience came the decision that if they could puncture the roof with small nozzles and bring water to play on the fire, they could control it with less water and roof damage, than by following the customary way of cutting up the roof, and perhaps having it burn under their feet.

Experiments determined the kind of a nozzle, and the amount of pressure required to drive a nozzle through a roof section or ceiling, or even a wood floor. It was found to be no problem to drive the nozzle described below through a floor section of two separate 1-in. wood floors laid on top of each other, or even sections built of 2-in. and 1-in. layers. Experiments were also conducted on driving the "puncture nozzle" through concrete. It was found possible to drive the device through 4 in. of concrete but, in so doing, best results came from first fracturing the concrete with a sledge at the point where entry was to be made, then driving the puncture nozzle through the weakened concrete.

The secret of the nozzle, according to Chief McAlpine, is the type of pipe used for the barrel, or tube, to be driven. His department has access to the desired material which is commonly used in the area's oil fields.

There are two different kinds of such stock. One is the connecting rod between the walking beam and the sucker rods for pumping oil wells, known as the "polish rod." This is the rod that passes through the stuffing box at the top of the oil well, attaches to the sucker rods, and lifts as much as 9,000 ft. of ⅞ in. sucker rod. This comes in different sizes and lengths, and the type the department used was 1½-in. outside diameter with an inside diameter of 1-in. There is no stronger steel, Chief McAlpine says.

For the point and the head of his device, the Chief says they used couplings from the sucker rod. This too is very good steel. The point was tempered so it would not blunt or break. The 1½-in. hose coupling was welded-in as were the handles for guiding and supporting the nozzle.

Another type pipe is 1-in. hydraulic, used in connection with the Kobe Hydraulic Pump which is designed to withstand 7500 pounds pressure. The department tried this. Six rings of holes, size 3/32-inch, were bored, giving a total of 42. These were directionally drilled to direct the flow of water. This nozzle was placed on a stand 9 ft. above the ground surface, giving a good coverage of 30 ft. diameter, according to the Chief, and a partial coverage of another 10 ft. from the outer 30 ft. circle's perimeter.

The nozzle discharged approximately 75 G.P.M. from a hydrant with 80 lbs.

Heavy duty "Puncture Nozzle" developed by the Oklahoma City Fire Department

static pressure through 50 ft. of 1½-in. fire hose.

Firemen also found that by using a siamese 2½-in. to 2 1½-in. openings, they could supply two puncture nozzles with the single 2½-in. hose from the 80 lb. hydrant.

Chief McAlpine believes this nozzle will be effective on many types of enclosed fires by merely puncturing the wall or floor which conceals the fire.

Our thanks to Chief McAlpine for this contribution.

* * *

GIRDED FOR THE FRAY

No need to ask members of the Hyde Park (Md. Volunteer Fire Department to run back and get a spanner, or a flashlight; they report for action ready and equipped with these and other essentials, on their person.

The gadget which accomplishes this is known as a utility belt. It is worn as shown, and carries flashlight, hose strap, coil of small diameter rope, and spanner. The latter is the type having a variety of uses.

We inquired of Bob Byrus, Director Fire Service Extension, University of Maryland, through whose good offices came this contribution, what for and how come the small-diameter rope. He replies:

"I am not sure of the reasoning behind the choice of the small diameter rope. Hyde Park is essentially an area with no metropolitan center having tall buildings. Assuming that the rope is ⅜-inch in diameter, it would give a working strength of 270 lbs. and a breaking strength of 1350 lbs. This would probably be adequate for many fire ground situations apt to be encountered by a department such as Hyde Park. The mere fact that the rope is instantly available would be a big factor in determining its usefulness."

In addition to the belt gear, note also the helmet rimmed with white for visibility, and the company insignia lettered on the back of the turnout.

* * *

The Old Timer Says—

Honestly now, chief, have you ever seriously tried to analyze on paper—*and in actual practice* a given operation or maneuver? How do you know the way you are doing it is the quickest, most efficient and safest way to do it! Trouble with a lot of fire-fighters is they're trying to fight all of *today's fires* with a lot of *yesterday's methods—and equipment.*

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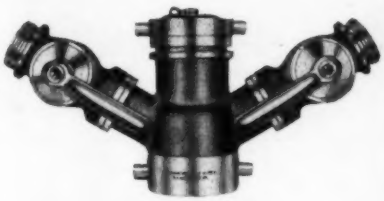

Plate 239

Plate 240

PLATE 240—2½" quarter-turn valve on straight-way connection and 1½" quarter turn valve on each side. Pin lug or sensible lug swivel. Rough body, painted red, with polished bronze or chromium plated trim. Leather carrying strap.

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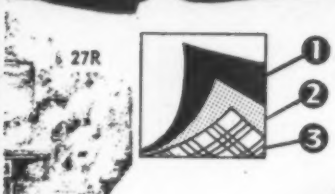

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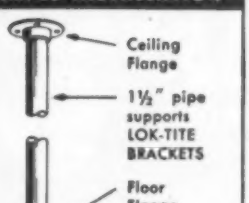

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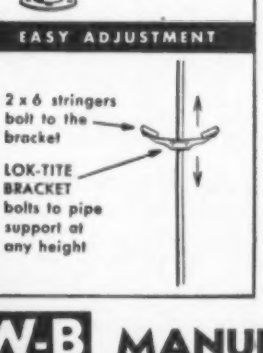

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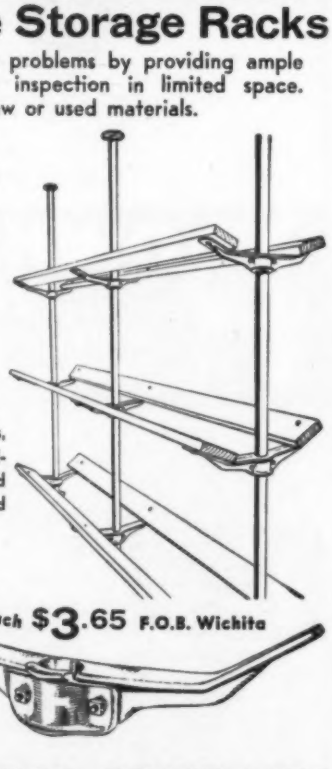

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Among the Buffs

By Paul C. Ditzel

TOPS in interest for fire buffs this month was the publication of a book, "Fires and Firefighters," by Fan John V. Morris who sent this column an advance copy.

The book is both a history of the fire service and a detailed account of several disasters. Two of the chapters were recently published in Saga and True Magazines. Morris' book contains a number of his own drawings.

He points out in the preface that he became a fire fan when he was taken by his family, including his aunt ("fire fans all") to a firehouse where a chief picked him up and gave him a ride down the brass pole.

"It must have been in the magic of that moment," writes Morris, "as he (the chief) and I descended through the hole in the floor and looked down over the apparatus and harness all polished and ready in the big room below, that my lifelong interest in firefighting was sparked."

The volume is published at $6 by Little, Brown and Company and should be available at larger book stores or they will be happy to order it for you.

Assistant Editor Roi B. Woolley sends along the following item:

"One of New York City's veteran buffs is Bill Herries, photographer, writer and erstwhile contributor for many years to this Journal. Bill recently unlimbered himself of a nostalgic little monograph captioned, "The Old Westside Hell's Kitchen," which highlights the interesting history of what is now pretty much the 9th Battalion, NYFD.

"Bill used to hang around 26 Engine on West 37th Street (it's still there today but hidden between the knees of tall commercial structures) and he tells about one of the city's first Negro buffs who, because he could tickle the ivories with ragtime at the firehouse, was allowed to ride the rigs with boots, hats and whathaveyou.

"Bill's still buffing all over the place —and taking some smart action photographs of fires, although we hear tell his more favorite hangout today is Engine 54 up near the Garden and Ladder 4." (Thanks, Roi.)

It's happened again in Buffalo. A Canadian visitor, accustomed to the fire engine red postal mail boxes back home, walked up to an alarm box in Buffalo and pulled the hook. Wonder whether you'd classify that as an unnecessary or a false alarm?

Also from Buffalo, the city's first extra alarm fire of the year was turned in from a junk yard on Bailey Avenue at Seneca Street. Three alarms were sounded for the fire touched off by 13-year-old boy with an arson record. What makes this a story, however, is when the smoke cleared the firemen found 20 junked Buffalo fire engines standing dismantled in a corner of the yard.

A fire captain patted a 1916 and said, "It's like meeting an old friend."

Sorry to have missed Dr. Arthur D. Devlin, president of Newark's Bell and Siren Club, when he visited Smog City recently during a convention of Orthopedic Surgeons in the Hotel Statler.

One of Los Angeles' busiest first stations is located across the street from the hotel, so Art did not want for something to do in his spare time.

Joseph L. Hallett is nearing press time again for his annual "Visiting Fireman." Joe says he'll welcome requests for free questionnaires and listings in his issue. Write him at P.O. Box 358, Norwell, Mass.

"The new edition will contain a larger percentage of articles and pictures about modern departments, apparatus and fire alarm plus some rather good material on the collection and fire-associated angles, including a good story on fire-stamp collecting," says Joe.

Other sections of the book will contain articles on old apparatus, firemanic museums, buff clubs and fire service organizations, plus model building and other illustrated features. If you hope to be listed in this issue, we suggest you write Joe soon. The material he sent us for this column arrived too late for last month's issue, so he should be close to make up time now.

An excellent tip comes from the radio committee of the Box 414 Association which was written up in this column last month:

"To operate your fire department and standard broadcast radios, plus headlights, heater, etc., without too much wear on your battery, we suggest you have a low speed or smaller pulley installed on your generator. This will enable you to operate your equipment while idling. Keep close watch on your battery water."

That's about it again this month. Thanks for your continued interest in the column and please don't despair if your material doesn't "make" within a month or so after you mail it. Keep me posted: 419 Napoleon St., Playa del Rey, Calif.

Book Shelf

SPARKY THE FIRE DOG. By James Browning, Illustrated by Mary Jane Chase. Published by Rand McNally & Company, Chicago, Ill. (In cooperation with the Fire Prevention Campaign of the Advertising Council.)

Distinctly for children the book explains "Sparky's Fire Department" the hero of which is Sparky the fire dog, now the spearhead of the fire prevention drive conducted by the National Fire Protection Association.

Information is presently lacking on the cost of this colorful little book, of 28 pages and hard cover, but it can be secured from the N.F.P.A., which also invites young persons to join the "Sparky" Fire Department, Boston 1, Mass., by sending $.25 for which they will receive a "Sparky's Inspector's Badge"; a "colorful membership card" and an "official Inspector's Manual" to help them prevent fires.

FIRES AND FIRE FIGHTERS. By John V. Morris; Published by Little, Brown and Company, Boston, Mass., and Toronto, Canada, March, 1955. 394 pages and hard cover; Price $6.00.

It is gratifying to note more and more research into the history of the nation's fire service and to see this research translated into well edited, documented, and well printed books. This newest addition to the library of the

Oil Reservoir — Filled through pipe plug in bonnet — assures positive lubrication of stem threads.

Dry Top Design — Prevents freezing of stem threads.

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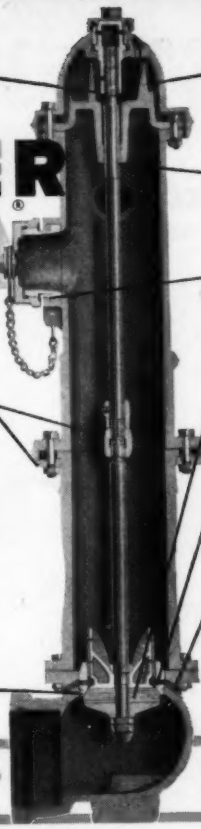

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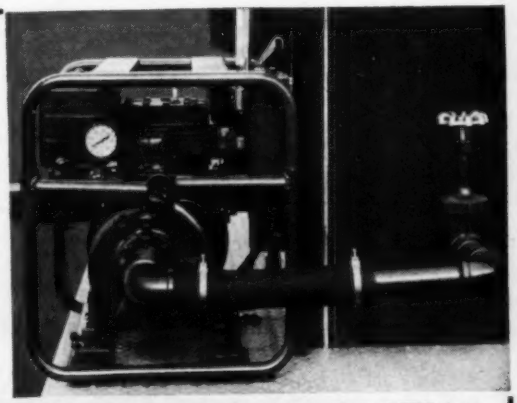
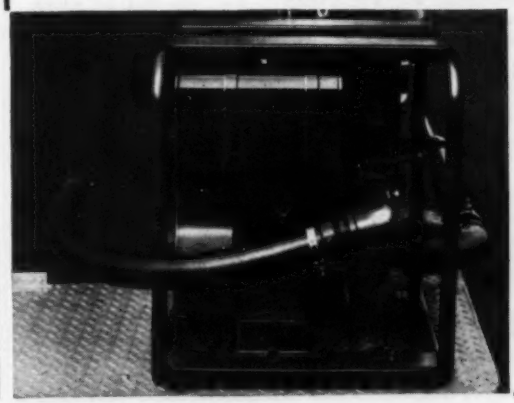
Picture at right shows Hale FZZ portable pumping unit (from Suction Side) neatly installed on running board of pumper. Shut-off valve at right leading from Booster tank.





Below, view of FZZ from Discharge Side showing Discharge running into Booster line.

Pump can be easily detached to fight fire direct; as standby pump; or to supply larger pumper from source of water inaccessible to the pumper.

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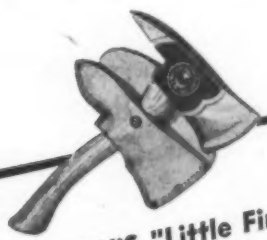

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A personal safety tool—it's sheath protected! A fast-working tool in tight spots; 15-inch handle permits easy swinging; full polished, red and gold trim; snap sheath optional.

FLAT HEAD FIRE AXE

Most popular of all; the 6 lb. head carries plenty of authority; full polished finish, red trim, 36-inch clear lacquered hickory handles.

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The finest tool for breaking and entering — FAST! Precision balanced in all 3 weights — 2-¼, 4-½ and 6 lb. Clear or red finish handles.

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Specially designed for forest fire work; precision balanced 36-inch white hickory handle, 3-¼ lb. head in black True American finish.

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Specially for hidden fires, when floor boards and wall panels must come away QUICK! 4-½ lb. head, black finish, white hickory handles.

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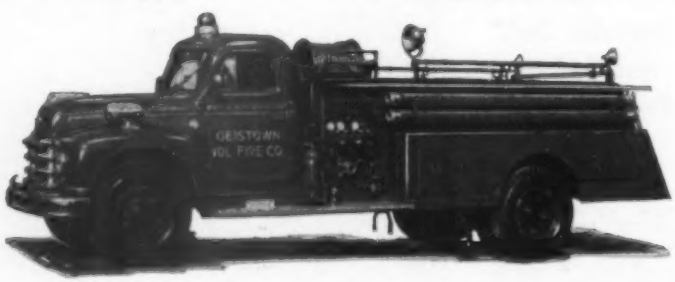

A highly efficient pumper apparatus with the Champion Three Stage Centrifugal Pump powered by Diamond T. The Pump is the Type SH750 which delivers 750 gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog.

Or this Darley Apparatus is also available in Underwriter capacities of 1000 GPM and 500 GPM. Modern commercial truck motors have adequate power for either 1000, 750, 600 or 500 GPM pumps.

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fire service has all those attributes, and should find a ready acceptance among all lovers of fire fighters from the days of "syringes and squirts" to the modern multi-stage pumper.

The twenty-three chapters take the reader back to earliest days of fire fighters, some of the fires they fought, and their struggles in the formative stages of the service. Much of this history has been recorded by other writers, it is true, but Mr. Morris—who is by way of being quite a fire buff himself—has dug up anecdotes and incidents heretofore overlooked, or buried to highlight his text. In addition, he has embellished his chronological message with attractive pen-and-ink illustrations.

The last four chapters cover the period dating from the San Francisco holocaust to "the tools and methods of modern fire fighting." There is also an interesting chronology of events relating to the fire service and the business of fire fighting, and a bibliography which will interest the student.

SMOKE EATER. By Carl H. Rathjen. Published by Dodd, Mead & Company, 432 Fourth Ave, New York 16, N. Y. 250 pages; Price $2.50.

Although written for young people, here's a story that will interest fire fighters who like to read about their calling and who are willing to overlook certain descriptions of operational procedures, and the nomenclature, which may not just happen to jibe with their own.

It's a tale about a lad whose ambition it is to follow in the footsteps of his fireman father and who encounters numerous obstacles during his probationary and later periods in the service. An injury shifts him from active fire fighting to the fire alarm service, where he ultimately finds his niche, and the "happy ending" of his tribulations.

The text contains much educational material on fire prevention, as well as data on the intimate life of a fire fighter in an average sized city. The author, who hails from New Jersey and more lately, California, has done considerable research and has knit an interesting and enlightening tale for young folk and for their elders who can accept the few minor inconsistencies for the sake of action and thrill.

Persons in the News

Chief W. W. Hedges Retires

Fire Chief W. W. Hedges, who has headed the Atlantic, Iowa, Fire Department since 1927, and has been a fire fighter since 1908, retired on January 1, 1955.

The Atlantic organization made great progress under Chief Hodges. It has been famous for its winnings in state tournaments and for its high ranking in fire prevention contests. In 1949 the Atlantic department won second place in the national fire prevention contest for cities in its population group, and the following year it placed first. In each of the last six years the Atlantic fire prevention program has ranked first in the nation for volunteer fire departments and first in the "under 20,000" group.

Chief Hedges at the time of his retirement was chairman of the advisory

firemen's training committee of Iowa State College, which assignment he has held since 1942. He is past president of the Missouri Valley Fire Chiefs' Association, the Iowa Firemen's Association and the Iowa Fire Chiefs' Association.

G. C. Hanna, Jr., Chief at Danbury

First Asst. Chief George C. Hanna, Jr., 49, has been named Chief of the Danbury, Conn., Fire Department, to succeed Chief John H. Ireland, who retired after 43 years of service in the Department.

The new Chief, a regular fireman since Oct. 11, 1942, and a volunteer fireman for 17 years prior to that time, was born March 5, 1905, in Bethel, and came to Danbury as a boy, attending local grammar schools and Danbury High School.

Chief George C. Hanna

After working for some time as a grocery clerk, he later worked as an automobile mechanic, and was appointed to the regular Fire Department in 1942. Chief Hanna previously served as a volunteer at the Citizens Hose Company.

Two other firemen have been advanced in rank in the Danbury Department. Charles E. Koch was elevated to First Asst. Chief, succeeding Hanna, and Emil J. Gannert has been elevated from Captain to Second Asst. Chief, succeeding Koch.

TOM MAGNER

Chief M. G. Brown Retires After Long Service

Fire Chief M. G. Brown of Winston-Salem, N. C., completed a fire fighting career of over 42 years when he retired on Feb. 1st last.

During his long and honorable service he saw his first department grow from only six paid firemen and three steamers to a 129-man force with 7 modern pumpers and one aerial.

Brown joined the department in December, 1912. He became chief in September, 1938, after the death of Chief W. G. Hobson.

The retiring chief, robust at 56, has stuck close to his job all through the years, working an average of 14 hours a day. In all his service he was out due to illness only 37 days.

Succeeding Chief Brown is former as-

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50 and 65 foot lengths . . .

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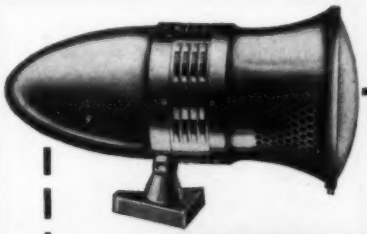
Apparatus shown above built by American-Marsh Pumps (Canada) Ltd., Stratford, Ontario, Canada, for Thetford Mines Fire Dept., using a 65' MEMCO AERIAL LADDER

Photograph on the right through the courtesy of American Fire Apparatus Co., Battle Creek, Michigan, who built this up-to-date Aerial truck for the Thad Stevens Volunteer Fire Dept., using a 50' MEMCO AERIAL LADDER



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sistant chief E. M. Dixon, who entered the department in 1913. He was made first assistant when Brown was named head of the department.

Retires After 64 Years' Service

James P. Rueter, a Burlington, Wis., fire fighter since 1890 and assistant fire chief since 1934, resigned from the fire department as of Jan. 1.

Bill Scharf, foreman of the hook and ladder company and a member of the fire department since Jan., 1926, was named to succeed Rueter.

Chief Rueter had by far the longest service of any past or present member of the local fire department. Appointed in August, 1890, he served as a fire fighter for 64 years and five months.

His closest competitor for length of tenure is John McCarthy, who has served the department since Feb., 1906.

Roy J. Porter is Chief of the Burlington Fire Department.

Chief George E. Courser Honored

Fire Chief George E. Courser, of San Diego, Calif., was honored during the Christmas 1954 Holidays by his fellow firemen on his completing 40 years of service. He joined the San Diego Fire Department as a rookie on Christmas Eve, 1914.

Chief George E. Courser

At a surprise party given at fire headquarters by his chief officers on December 24th, Chief Courser received from the Fire Fighters Association of San Diego an electric clock with engraved plate marking his long service.

Earlier, retired fire chief Louis Almgren, who appointed Courser, called with a committee to present the popular Pacific Coast fire fighter with a billfold carrying an engraved gold plate in recognition of his service.

William B. Marx Leaves New York Fire Bureau

William B. Marx, since 1952, Field Representative and Instructor in rescue and firemanship of the Division of Safety, New York Bureau of Fire, and former member of the Middletown, N. Y., and Stewart Air Force Base Fire Department, has left the division. His future plans have not been announced.

Public Relations

(*Continued from page 228*)

tate to ask his many friends in the newspaper business for their opinions on an idea that he may have.

"Just the other day," he recalls, "I asked a reporter friend of mine what he would do in setting up a picture which we were going to take and release for our Fire Prevention Bureau. He immediately came up with an answer which solved the whole problem."

One of the captain's biggest boosters, and a man who is thoroughly competent to evaluate the work of the bureau, is Chief Alderson.

"Our publicity setup here is unique in the fire service," the veteran chief said. "We have fine press relations and, above all, it is important to realize that good publicity is a great morale builder for all our men."

Chief Alderson pointed out that every man likes to see his name, unit, or department mentioned in the press.

"If everyone says you are good, after a while you will think that you are good and your entire department will benefit."

The chief recalled that he once used publicity as a means to build up his rescue service.

"At one time we were having a hard time getting men to work rescue units. So I called Claude (Captain Conlin) in and told him to see what he could do to glamorize and publicize the rescue service. You know, today we have a waiting list of men wanting to transfer to rescue squads."

The veteran fire chief believes that his department's publicity program has helped to cut down fire losses by making people aware of the tragedy of fire and by reminding them to always be careful.

"I'd say that publicity was a definite intangible which, although it does not show up in statistics, is still an extremely important part of a department's activities.

"Although it definitely does cost us something in expenditure of time and assignment of personnel and equipment, I feel it is worthwhile."

Captain Conlin is a humble man and perhaps that is one of the reasons he has been so successful in his job.

"You know," he said, "we like to think that although we have done a passable job, we still have a long way to go. We are always willing to listen and to admit that we don't know all the answers."

Fire departments across the nation could benefit from the experiences of the L.A.F.D.'s fine publicity bureau.

Heavy Life Loss at Japan Aged Home

A flash fire which roared through a Roman Catholic old ladies home before dawn on Feb. 17th brought death to between 95 and 100 inmates. Between 30 and 40 others were burned or hurt while escaping from their dormitory, an old two-story Japanese Army barracks.

The home, south of Yokohama, is operated by a Canadian Roman Catholic organization. Another part of the Convent, not harmed by the fire, houses more than 100 nuns and novices, mainly Japanese.

The fire broke out at 4:30 A.M. and was brought under control 3½-hours later after destroying four wooden dormitories.

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Minimum specifications require priming on a 10 ft. lift in 30 seconds. A substantial reserve on all HALE products is a consistent HALE policy.

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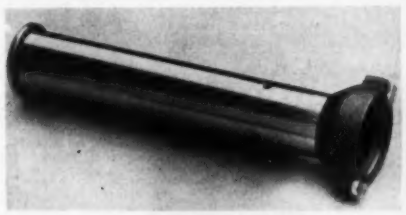

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UNOX Foam is equally effective on Class "A" and "B" fires. It actually "piles up" on the fire to assure extinguishment. It leaves no residue—does less water damage.

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Convention Dates

Mar. 24-26—OIL FIRE CONTROL SCHOOL. Annual meeting, Bakersfield, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

Apr. 11-15—GREATER NEW YORK SAFETY COUNCIL. Annual Safety Convention and Exposition, sponsored by Greater New York Safety Council and 71 cooperating agencies. For information, contact the Council, 60 East 42nd Street, New York 17, N. Y.

Apr. 12-13—OHIO FIRE BRIGADES ASSOCIATION. Annual meeting, Cleveland, Ohio. Secretary, William Ballard, Columbus Coated Fabric Co., Columbus.

Apr. 17-19 — NEBRASKA STATE FIRE SCHOOL. Annual meeting, Grand Island, Neb. Director, Otto B Johannes, 2604 Twelfth Street, Columbus, Neb.

Apr. 18-21—LOUISIANNA STATE FIRE COLLEGE. Annual meeting, Baton Rouge, La. Director, Chief Robert A. Bogan, Fire Headquarters, Baton Rouge, La.

Apr. 24 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Loup City, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

Apr. 25-29 — MINNESOTA STATE FIRE SCHOOL. Annual meeting, University of Minnesota, St. Paul, Minn. Co-Chairmen, J. O. Christianson, Superintendent, School of Agriculture, University of Minnesota, St. Paul, and Leonard C. Lund, Deputy Commissioner and State Fire Marshal, 570 State Office Building, St. Paul 1, Minn.

Apr. 25-29—INTERNATIONAL SEMINAR IN ARSON DETECTION AND INVESTIGATION. Annual meeting, Memorial Union Building, Purdue University, West Lafayette, Ind. For information regarding the seminar, write to Professor Shelby Gallien, Seminar Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Apr. 25-29 — OKLAHOMA STATE FIRE SCHOOL. Annual meeting, Oklahoma A. & M. College, Stillwater, Okla. Director, R. J. Douglas, Head, Fire Protection Department, Oklahoma A. & M. College Campus Fire Station, Stillwater, Okla.

May 1 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at O'Neil, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 9-10—GEORGIA STATE FIRE COLLEGE. Officer Training and Basic Course, Atlanta, Ga. Director, Harry Phillips, Director Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

May 15—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting, Brattleboro, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Association Vergennes, Vt.

May 15 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at West Point, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 16-20—NATIONAL FIRE PROTECTION ASSOCIATION. Annual meeting, Cincinnati, Ohio. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston 10, Mass.

May 22 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Tecumseh, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 23-25—NORTH CAROLINA FIRE COLLEGE. Annual meeting, Charlotte, N. C. For information, contact the Director-Conductor, Chief Charles L. Burkett, Fire Headquarters, Salisbury, N. C.

May 23-27—CALIFORNIA FIRE SERVICE INSTRUCTORS CONFERENCE. Annual meeting, Fresno, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

May 23 to June 24—FLORIDA STATE FIRE COLLEGE. First of two sessions. Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

May 24-27—IOWA STATE FIRE SCHOOL. Annual meeting, Iowa State College, Ames, Ia. For information, contact Mark Brosier, Supervisor Firemanship Training, 110 Marston Hall, Ames, Ia.

May 29—NEBRASKA REGIONAL FIRE SCHOOL. To be held at Sutton, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

May 30-June 3—ALABAMA STATE FIRE SCHOOL. Annual meeting, University of Alabama, University, Ala. Director, M. O. Hulsey, Assistant State Supervisor of Trade and Industrial Education, P. O. Box 1813, University, Ala.

June 1 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Curtis, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

June 6-7—GEORGIA STATE FIRE COLLEGE. Instructors' Course, Atlanta, Ga. Director, Harry Phillips, Director of Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

June 6-10—CONNECTICUT FIRE COLLEGE. Annual meeting New Haven Fire Department Training Ground. Director, L. W. Eddy, Supervisor Service Training, State Department of Education, Box 2219, Hartford, Conn.

June 6-10—SOUTH DAKOTA STATE FIRE SCHOOL. Annual meeting, Deadwood, S. D. Director, Joseph I. Fetters, Administrative Assistant, University of Missouri, Columbia, Mo.

June 7-9—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky, Lexington, Ky. Director, John L. Thompson, Assistant Manager, Kentucky Inspection Bureau, 940 Starks Building, Lexington, Ky.

June 8-11—COLORADO STATE FIREMEN'S ASSOCIATION. Annual meeting, fire school and tournament, Estes Park, Colo. Secretary, Deputy Chief Arthur J. Becker, 4250 Stuart Street, Denver 12, Colo.

June 10-11—SOUTHWEST VIRGINIA FIREMEN'S ASSOCIATION. Annual meeting, Galax, Va. Secretary, B. C. Goad, Hillsville, Va.

June 12 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Ogallala, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb.

June 12—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting, Orleans, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Assocation, Vergennes, Vt.

June 13-16—ILLINOIS FIRE COLLEGE. Annual meeting, University of Illinois, Champaign-Urbana, Ill. Director, R. K. Newton, Supervisor of Fire Training, University Division of Extension, 725 S. Wright, Champaign, Ill.

June 16-18—UTAH FIREMEN'S TRAINING SCHOOL. Annual meeting, Salt Lake City, Utah. Director, Don E. White, Assistant Chief in Charge of Training, Salt Lake City Fire Department, 160 East First Street South, Salt Lake City, Utah.

June 18-19—OHIO REGIONAL FIRE SCHOOL. To be held at Lyndhurst, Ohio. Director, Walter T. Banning, 606 Fourth Street, N. W., New Philadelphia, Ohio.

June 19 — NEBRASKA REGIONAL FIRE SCHOOL. To be held at Chadron, Neb. Director, Otto B. Johannes, 2604 Twelfth Street, Columbus, Neb,

June 20-23—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

June 20-24—FIRE AND ARSON INVESTIGATION SHORT COURSE. To be held at the University of California, Berkeley, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

June 20-25 — MISSISSIPPI STATE FIRE SCHOOL. Annual meeting, State College, Miss. Director, Joseph I. Fetters, Administrative Assistant, University of Missouri, Columbia; Mo.

June 22—CENTRAL WESTERN FIREMEN'S CONVENTION. Annual meeting, Eaton, Ohio. Secretary, Don Campbell, 613 N. Cherry Street, Eaton, Ohio.

June 23-24—SASKATCHEWAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Weyburn, Sask. For information, contact Chief G. M. Beach, Weyburn, Sask., Fire Department.

June 27-July 1—FIRE AND ARSON INVESTIGATION SHORT COURSE. To be held at the University of California, Los Angeles, Cal. Director, T. S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento, Cal.

Convention Dates

July 10-15—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A & M College, College Station, Tex. Director, H. R. Brayton, Engineering Service, A. & M. College, College Station, Utah.

July 11-12—GEORGIA STATE FIRE COLLEGE. Arson Investigation Course, Atlanta, Ga. Director, Harry Phillips, Director Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

July 11 to Aug. 12—FLORIDA STATE FIRE COLLEGE. Second of two sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

July 16-17—DELAWARE SHORT COURSE FOR FIREMEN. Annual meeting, Camden-Wyoming, Dela. Director, Frank M. Forstburg, Delaware State Board for Vocational Education, 511 West 8th Street, Wilmington, Dela.

July 17—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting, Bennington, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Association, Vergennes, Vt.

July 18-20—ARKANSAS STATE FIRE DEPARTMENT INSTRUCTORS TRAINING SCHOOL. Annual meeting, Little Rock, Ark. Director, W. A. Turner, State Fire Instructor, State Education Building, Little Rock, Ark.

July 23-24—DELAWARE SHORT COURSE FOR FIREMEN. Annual meeting, Camden-Wyoming, Dela. Director, Frank M. Forstburg. Delaware State Board for Vocational Education, 511 West 8th Street, Wilmington, Dela.

July 25-29—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, West Virginia University, Morgantown, W. Va. Director, R. E. Hanna, Jr., Supervisor, Fire Service Extension Schools, West Virginia University, Morgantown, W. Va.

July 26-28—CENTRAL MISSOURI FIRE CONFERENCE. Annual meeting, University of Missouri, Columbia, Mo. Director, J. I. Fetters, Room 101, Building T-11, University of Missouri, Columbia, Mo.

July 30-31—OHIO REGIONAL FIRE SCHOOL. To be held at Amherst, Ohio. Director, Walter T. Banning, 606 Fourth Street, N. W., New Philadelphia, Ohio.

Aug. 2-5—IOWA STATE FIRE INSPECTORS SCHOOL. Annual meeting, Iowa State College, Ames, Ia. Director, Mark H. Brosier, Supervisor of Firemanship Training, 110 Marston Hall, Iowa State College, Ames, Ia.

Aug. 7—VERMONT STATE FIRE FIGHTERS TRAINING SCHOOL. Regional meeting, St. Albans, Vt. Director, W. H. Adams, Secretary-Treasurer, State Fire Fighters Association, Vergennes, Vt.

Aug. 8-9—GEORGIA STATE FIRE COLLEGE. Engineers Course. Atlanta, Ga. Director, Harry Phillips, Director Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

Aug. 11-13—CONNECTICUT STATE FIREMEN'S ASSOCIATION. Annual meeting, Bethel, Conn. For information, contact the Bethel Fire Department.

Aug. 15-17—WISCONSIN FIRE SCHOOL. Annual meeting, University of Wisconsin, Madison, Wisc. Director, J. J. Lichty, Coordinator, Business Institutes, University of Wisconsin, Box 2098, Madison, Wis.

Aug. 22-26—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Mid-Tennessee State College, Murfreesboro, Tenn. Director, Homer S. Elkins, State Fire Service Instructor, 120 Cordell Hull Building, Nashville, Tenn.

Aug. 24-27 — MONTANA STATE FIRE SCHOOL. Annual meeting, Polson, Mont. Director, Chief Clayton Brown, Fire Headquarters, Polson, Mont.

Aug. 28-30—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual meeting, Auburn, N. Y. Secretary-Treasurer, Robert E. Mills, 420 Plymouth Drive, Syracuse 6, N. Y.

Sept. 5-6—GEORGIA STATE FIRE COLLEGE. Inspectors Fire Prevention Course, Atlanta, Ga. Director, Harry Phillips, Director Vocational Service, State Department of Education, 642 Killian Street, Atlanta, Ga.

Sept. 6-9—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Director of Fire Service Extension, Box 85, University of Maryland, College Park, Md.

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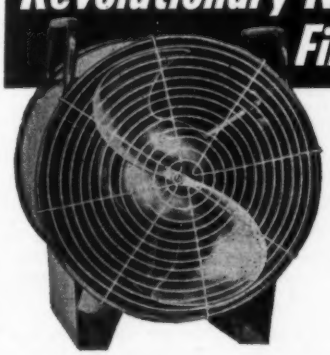

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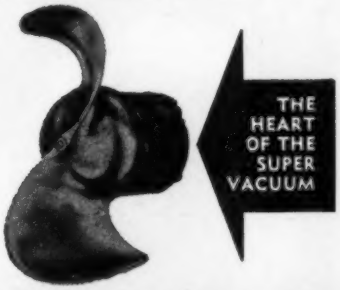

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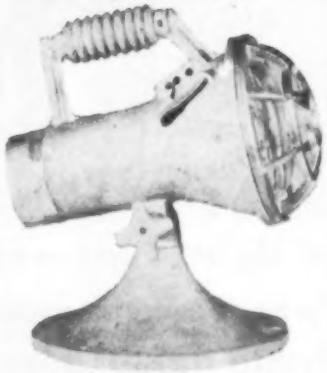

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Sept. 9-10—NORTHEASTERN PENNSYLVANIA VOLUNTEER FIREMEN'S FEDERATION. Annual meeting, Peckville, Pa. Secretary, E. V. Coleman, Pleasant Avenue, Peckville, Pa.

Sept. 12-15—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, on board C. S. L. "St. Lawrence." Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 12-16—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Norfolk, Va. Director, Clay A. Easterly, Fire Marshal, P. O. Box 1112, Martinsville, Va.

Sept. 12-16—OHIO STATE FIRE SCHOOL. Annual meeting, Ohio State University, Columbus, Ohio. Director, Dr. Harvey Walker, Department of Political Science, Ohio State University, Columbus, Ohio.

Sept. 13-16—INDIANA STATE FIRE SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. Director, Francis W. Hartman, Chief of Fireman Training, Purdue University, Lafayette, Ind.

Sept. 14-17—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Sun Valley, Ida. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Sept. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Omaha, Neb. For further information contact Chief Daniel B. Tierney, Secretary-Treasurer, 8 Robbins Road, Arlington 74, Mass., or the Headquarters Office, Hotel Martinique, Broadway at 32nd Street, New York 1, N. Y.

October 11—MAINE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Lewiston, Me. For information, Contact Chief Z. F. Drouin, Fire Headquarters, Lewiston, Me.

Oct. 17-20—KANSAS FIRE SCHOOL. Annual meeting, University of Kansas, Lawrence, Kans. Director, Gerald Pearson, Director of Extension Classes, University of Kansas, 111 Fraser Hall, Lawrence, Kans.

Oct. 20-22 (tentative)—ARIZONA STATE FIRE TRAINING SCHOOL. Annual meeting, Phoenix, Ariz. Director, Harry C. Biggiestone, District Engineer, Board of Fire Underwriters of the Pacific, 405 Luhrs Building, Phoenix, Ariz.

Overhaul and Salvage

(*Continued from page 225*)

ground, and their physical ability to respond.

Obviously, those companies so distributed and stripped of equipment and manpower, are out of service, whether fighting fire or overhauling, or performing salvage duty. But other company units, which may be engaged in overhaul and routine mopping up, can be placed in service, and remain in service, providing their personnel and equipment (or most of it) is available for service. We have said that in the old days companies had to hurry back to their quarters to be ready and able to respond to other alarms. For that reason, fire departments in that era did not devote the necessary time to overhauling at fires. "Radio being what it is," says former Chief Fire Marshal, Anthony J. Mullaney of Chicago, "that excuse can no longer be used; fire departments now have time and opportunity to perform these finishing touches."

We speak of overhaul proceeding with fire extinguishment. Even with depleted manpower, a degree of overhaul, (search for and investigation into fire), may run concurrently with extinguishment. For example, in New York City, out of 44,370 actual fires in one typical year, 22,477 or approximately 51 per cent, were extinguished without the use of engine streams.

Although actual extinguishment was a relatively slight matter in these 22,477

when heat is intense

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incidents, there had to be careful overhaul, using the term in its broadest sense. Search and investigation to make sure of no rekindle and to save all possible property, in a majority of the cases, was conducted coincidently with the extinguishing operations. And even though, as is the safe practice in this and other cities, large standby lines were stretched in, most of the responding companies either were returned at once to quarters, or continued "in service" via radio while their crews were ready for overhaul or other operations.

The point we are trying to make is that overhaul need not always wait for complete and final control before being started.

Let us consider further the procedure followed by this same big city. Bearing upon overhauling while the fire is burning, the second due ladder company is generally used to open up and examine above the fire floor for any possible fire extension. Examination is made around all vertical openings, steam, gas and water pipes, etc. Every spark of fire is either extinguished by this detail or by other forces brought in for the purpose. If necessary, flooring is taken up in the investigation and examination process.

Materials and goods are removed from around the vertical openings. No packages or cases are opened unless they show signs of burning. Where a small amount of fire is found, the officers instruct men to use water from pails or other receptacles to extinguish it, rather than to drag lines up. Where overhauling around window frames, rolling doors, etc., is indicated, only the facings are taken off, sufficiently to permit examination of the interior and to expose any fire that may be concealed there. By the same token, where surface heat, discoloration or odor indicates concentration of heat within walls, only enough lath and plaster is removed to permit an examination.

These same principles of overhaul of course apply to post-fire examination, but the point is that, given the men to do the job, a department can in any normal fire carry on overhaul coincidental with extinguishment.

Overhaul After Fire Has Been Controlled

We now come to the most important element in our study—overhaul after the fire has been controlled.

It is manifestly impossible to set down all of the operations that may be included in this phase of overhaul. No two fires are exactly alike; no two can be treated alike. Therefore, no pattern can be laid down that will cover all situations, all needs. At best, we can only attempt to touch on the more fundamental considerations.

The first requisite, before initiating overhaul, is to determine the condition of the building or area in which overhaul will be practiced. Is the structure, or place, safe to work in? The correct answer to that question may save lives and property.

The more intense the fire, and the greater the amount of water used in its control, the more urgent the need for this determination.

There are two factors which should be considered in determining the safety of a building. The first is the extent

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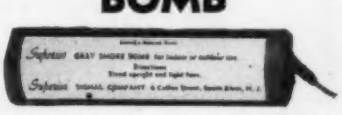

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the structural details have been weakened by the fire; the second is the additional weight on floors, walls, etc., resulting from water used to control the fire. This last factor will vary depending upon the contents of the structure, and the absorbent qualities of the stock.

Advance Knowledge May Be Helpful in Overhaul

Determination of the foregoing factors may be aided by advance knowledge of building and occupancy on the part of the fire service. Inspections now being conducted in the more progressive departments provide much of that information.

This information should be utilized by officers in planning and directing overhaul operations. It should be checked against the knowledge of the extent and severity of the fire as determined by investigation of the premises and reports from officers, who directed fire control operations.

Such preliminary knowledge of building and contents as is available (we refer of course to a fire of some proportions), coupled with reports of fire fighting units engaged in the extinguishing operations, should provide sufficient basic information for a sound appraisal of the magnitude and extent of the overhaul job.

This, in turn, should indicate the size of the force to carry out the undertaking. Forces not needed for actual work, or standby; should be returned to quarters. If weather or other unfavorable conditions indicate the need of additional special aid, such as street, health, police or other municipal agencies, they should be summoned.

Highlights of Operations

Having established the command and details for the post-fire overhaul, and with such knowledge of hazards and objectives as could be gathered, and some sort of overhaul plan decided upon, operations should get under way.

One of the first major objectives should be to make a careful check to determine whether or not the fire has extended to other areas of the building by vertical openings, in particular through partitions, dumb waiters, pipe recesses, elevators and whether it has found its way into false ceilings and other concealed spaces.

Concealed spaces where fire can lurk, and which many fire fighters experienced in overhaul consider should be checked, include roof and floor beams at the place where they enter party walls. Some maintain that if the floor beams have burned away at the ends, where they enter a party wall, the burned ends should be overhauled and removed if possible and the voids washed out. The far side of the wall should be checked to see if fire or water has come through, or there are any signs of weakening.

Where, as is so frequently the case, fire has burned around windows or doors, there is every possibility of fire remaining in the casings. There have been instances where burned pulley ropes have dropped and spread fire throughout the inside of framework. Smoldering ends of rope in the weight channels should be carefully checked. A dose of water through the pulley holes may be advisable, or the complete re-

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THE LARGEST, MOST POWERFUL SIREN
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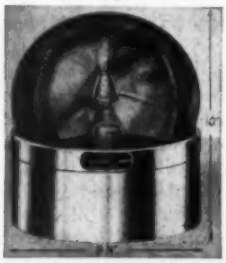

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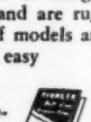

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moval of the facing may be called for. Incidentally, window and door overhaul test the mettle of the fire fighter. The job can be done with little damage to the framework and door or window, or it can leave them a splintered wreck.

Overhaul of concealed spaces frequently brings to light pockets of gas from the fire, or leaky pipes which, if ignited, would cause additional damage. Sometimes quantities of water, perhaps scalding hot, may be encountered in overhaul of out-of-the-way places. Many firemen have suffered scalds and burns by having hot water, or flaming material fall onto them in opening up areas.

Another point of possible trouble is the cornice. When fire has burned around a roof or cornice it is well to open up the latter as fire may have traveled along the cornice to another building or area. There may be fire some distance away from the visible indications of fire in a cornice.

In most departments such investigation is conducted by two or more men. A single man might become lost, or injured, and it might be some time before he was found. Here, again, teamwork enters into the picture.

It should be repeated that before overhaul is started, following complete control of the fire, a charged line, or lines and other extinguishing agents that may be required for any special extinguishing operation, should be ready for use by the overhauling force.

Ample Illumination Needed

Imperative also for overhaul, under night conditions, is ample illumination. It has been proved conclusively that the brighter and more plentiful the lighting of both the entire fire ground, and the interior of the fire building, the lower is the casualty rate in overhaul, and the more rapid and efficiently will the overhaul be carried out. It is a fact that today many fire departments are lacking in sufficient lighting equipment for most serious night fire control, and overhaul and salvage operations. Fast, effective and safe operations cannot be conducted by the light of a flashlight or lantern.

In this connection, it is assumed that even before overhaul begins, the facilities of gas and electricity have been cut off in the building involved. If they have not, a careful check of both these facilities should be made.

Officers in charge of engine companies should arrange their hose lines so that they will not be in the way, or be covered up by debris; also there should be ample slack to permit coverage of the affected area. The type nozzle, like the size of the hose itself, will depend upon the task for which it may be called upon to operate.

The introduction of the control nozzle, with threaded end which permitted changing the size of stream gave fire fighters one of the first practical, efficient tools for improving overhaul and preventing needless water damage.

The fog nozzle furnished another valuable improvement, more particularly the type that provides either or both straight stream and fog. Its value is still further enhanced by the use of applicators or extension pipes, with fog heads which can be used to kill fires, and wet down hard-to-reach spaces where, under other conditions, consid-

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erable destruction of property might have to be done in order to dampen down the areas.

The modern fire department is equipped with these applicators, as well as partition and bayonet nozzles, bentpipes and all possible devices for getting water into concealed spaces, with least possible damage to the structure.

There is a preference to conduct overhaul or "mop-up" with 1½-inch lines equipped with all-purpose nozzles. Under some conditions booster lines to discharge wet water may be highly desirable. It is safe to say that where contents are perishable or of high value, or of such nature that excessive use of water may result in serious damage to stocks, water must be used sparingly. Water fog is effective in such a case.

News of the Manufacturers

(*Continued from page* 241)

Mr. Zeller, who studied mechanical and electrical engineering at Rutgers University, entered the automotive industry in 1926 at the Mack plant in Plainfield. He became assistant manager of the company's engine laboratory there in 1936. Five years later he was appointed production engineer for the Plainfield plant.

In 1943, Mr. Zeller was advanced to factory manager at Plainfield and in 1948 was transferred to the same post at Mack's main assembly plant at Allentown, Pa., where he will continue to make his headquarters. In 1951 he was appointed chief engineer for the company.

Mr. Zeller is a member of the Society of Automotive Engineers and the Ordnance Association.

Apparatus Builder Moves to Larger Quarters

The Approved Fire Equipment Company, Inc., of Island Park, L. I., N. Y., has announced the removal of its plant to larger quarters at Austin and Audubon Blvds. of that city. The new location, in addition to providing more commodious quarters, also will make available improved manufacturing facilities.

The Company builds pumpers, quadruple service and utility trucks, floodlight trucks and three sizes of rescue and emergency apparatus. In addition, a well-equipped Modification Depart-

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Mechapical foam playpipes, Phoenaire, complete with pickup tube (Worth $55.00). Our price only..... 15.00 ea.
2½" Siamese connections, plain, 1 male and 2 females, NST ..... 4.75 ea.
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M. M. Kahn Promoted at Acme-Hamilton

L. J. Howell, vice-president and general manager of the Acme-Hamilton Manufacturing Corporation, Trenton, N. J., recently announced the promotion of Marvin M. Kahn to the post of Director of Development for New Products.

Mr. Kahn has engaged in development work on both rubber and plastic hose and has assigned patent rights on a new type of plastic hose to the Corporation. He is an alumnus of M.I.T. where he majored in physics

C. F. Unger Heads Hose Sales for Hewitt-Robins

Carl F. Unger, 352 Darlington Drive, Kenmore, N. Y., has been named manager of municipal fire hose sales by Hewitt-Robins, Inc., Buffalo, N. Y.

Carl F. Unger

A graduate of Pennsylvania Military College, Chester, Pa., class of 1943, Mr. Unger joined Hewitt-Robins one year ago as assistant manager of the department. Before that he had been a salesman for the National Gypsum Company.

He succeeds Wm. G. Loney, who retired recently after 37 years service with the company.

R. C. Taylor, Jr., Joins FWD

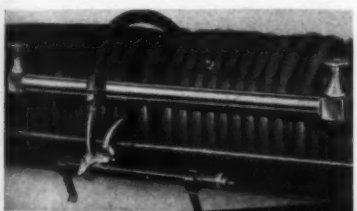
Reuben C. Taylor, Jr., director of sales for Bennett Industries, Peotone, Ill., has been appointed domestic sales manager of the Four Wheel Drive Auto Company, Clintonville, Wis., it was announced by G. F. DeCoursin, FWD vice president-sales recently.

Taylor succeeds H. G. Engel, recently promoted to special accounts manager.

Taylor is a former general sales manager of Pheoll Manufacturing Company, Chicago, and a former sales executive of Trailmobile Company, Cincinnati. He served for two years as a director of the Chicago Sales Executives Club.

Correction

In the February issue, a typographical error was made in the address of Power Equipment Company. Correctly, it should read 6000 Passeo, Kansas City, Mo.



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